COUNTY OF SAN LUIS OBISPO
DEPARTMENT OF PLANNING & BUILDING

Initial Study – Environmental Checklist

PLN-2039
04/2019

Project Title & No. Rancho De Suenos Major Grading Permit; ED20-135 (PMTG2020-00044)

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED: The proposed project could have a "Potentially Significant Impact" for environmental factors checked below. Please refer to the attached pages for discussion on mitigation measures or project revisions to either reduce these impacts to less than significant levels or require further study.

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation, the Environmental Coordinator finds that:

☐ The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ Although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ The proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ Although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Ian Landreth	Ian Landreth Digitally signed by Ian Landreth DN: C=US, E=ilandreth@co.slo.ca, O=County of San Luis Obispo, OU=Planning Division, CN=Ian Landreth Reason: I am the author of this document Date: 2021.09.20 09:44:24-07'00'	Ian Landreth Project Manager	9-20-2021
Prepared by (Print)	Signature		Date
On behalf of Steve McMasters	Schani Siong Digitally signed by Schani Siong DN: C=US, E=sisiong@co.slo.ca.us, CN=Schani Siong Reason: I have reviewed this document Date: 2021.09.17 14:25:49-07'00' for	Steve McMasters, Principal Environmental Specialist	9-17-2021
Reviewed by (Print)	Signature		Date

Initial Study – Environmental Checklist

Project Environmental Analysis

The County's environmental review process incorporates all of the requirements for completing the Initial Study as required by the California Environmental Quality Act (CEQA) and the CEQA Guidelines. The Initial Study includes staff's on-site inspection of the project site and surroundings and a detailed review of the information in the file for the project. In addition, available background information is reviewed for each project. Relevant information regarding soil types and characteristics, geologic information, significant vegetation and/or wildlife resources, water availability, wastewater disposal services, existing land uses and surrounding land use categories and other information relevant to the environmental review process are evaluated for each project. Exhibit A includes the references used, as well as the agencies or groups that were contacted as a part of the Initial Study. The County Planning Department uses the checklist to summarize the results of the research accomplished during the initial environmental review of the project.

Persons, agencies or organizations interested in obtaining more information regarding the environmental review process for a project should contact the County of San Luis Obispo Planning Department, 976 Osos Street, Rm. 200, San Luis Obispo, CA, 93408-2040 or call (805) 781-5600.

A. Project

DESCRIPTION: Request by Rancho De Suenos LLC for a Major Grading Permit (PMTG2020-00044) to construct a new, lined 9.57-acre/foot agricultural reservoir to impound water for irrigation to serve an existing vineyard. The reservoir will be approximately 300 feet long by 125 feet wide by 14 feet deep. It will be lined with a textured HDPE geomembrane and have an overflow PVC pipe outlet structure. The reservoir will be supplied with groundwater from an existing well and pump on on the adjacent property to the east of the subject property (APN 027-011-034). This property is under the same ownership as the applicant. The project would result in the disturbance of 1.75 acres of a 310-acre site including 10,274-cubic-yards of cut and 10,220-cubic-yards of fill material. The project is within the Agriculture land use category and is located at 1 Allende Road, approximately 1 mile north west of the community of San Miguel. The site is in the Salinas River Sub Area of the North County Planning Area.

The proposed reservoir will be filled using water from the existing well, and will be emptied of well supplied water from November 1st through March 31st, maintained at full condition for April 1st through May 31st for frost protection, and at a quarter full condition from June 1st through October 31st . The proposed reservoir will be used to permit greater flexibility in the irrigation practices that are associated with the vineyard operation and to provide a water supply in the event that frost protection is needed.

ASSESSOR PARCEL NUMBER(S): 027-011-010

Latitude: 35.76750° N **Longitude:** 120.72516° W **SUPERVISORIAL DISTRICT #** 1

B. Existing Setting

Plan Area: North County **Sub:** Salinas River Sub Area **Comm:** San Miguel

Land Use Category: Agriculture

Combining Designation: None

Parcel Size: 310.5 acres

Topography: Moderately Rolling

Vegetation: Nonnative annual grassland, Ruderal vegetation, Oak trees

Existing Uses: Residential, Crop Production and Grazing

Surrounding Land Use Categories and Uses:

North: Public Facilities; Military

East: Agriculture; Crop Production and Grazing

South: Agriculture; Crop Production and Grazing

West: Public Facilities; Military

C. Environmental Analysis

The Initital Study Checklist provides detailed information about the environmental impacts of the proposed project and mitigation measures to lessen the impacts.

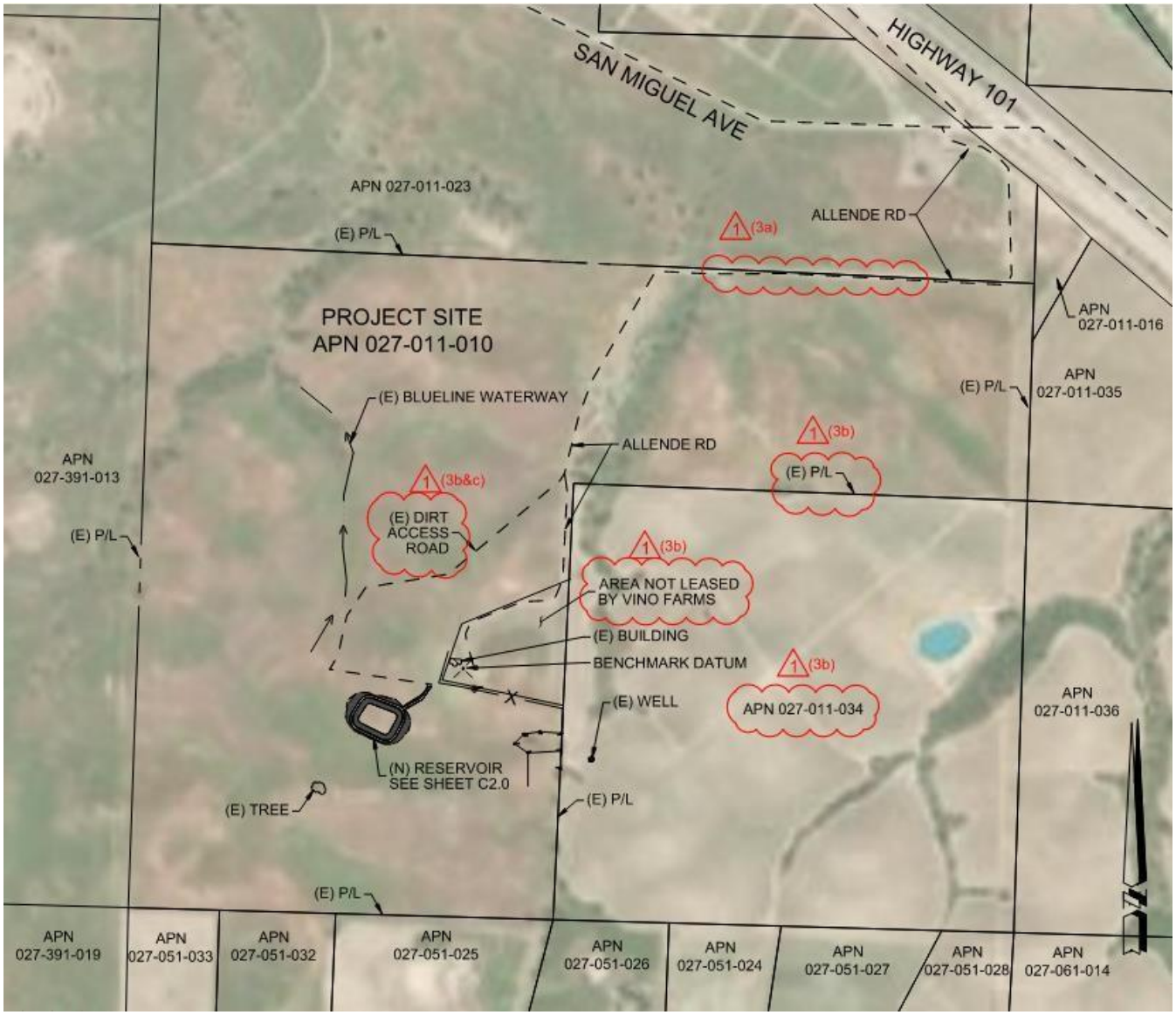


Figure 1. Site Map.

I. AESTHETICS

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

Setting

The proposed project is located between 530 and 6,409 feet from Highway 101, and 1 mile northwest of the community of San Miguel. The project site is within a productive agricultural area. The visual setting includes vast agricultural views (predominantly crop production and grazing), open hillsides, a few scattered rural residences, and other appurtenant agricultural infrastructure and development. There are approximately 2 existing agricultural reservoirs within 5 miles of the project site. The project is not located in any designated scenic corridor. Highway 101 runs north-south through San Miguel, approximately 1.4 miles east of the reservoir site.

Discussion

(a) Have a substantial adverse effect on a scenic vista?

The project site is located in rural areas accessed by agricultural farm roads off of Allende Road, which serve as the primary public viewing locations for the project site. The location of the reservoir is not visible from Highway 101. For the purposes of determining significance under CEQA, a scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public.

While the project vicinity has high scenic value and an appealing rural and agricultural character, it is not officially or unofficially designated as a scenic vista and not visible from a public roadway.

Therefore, the project would not result in a substantial adverse effect on a scenic vista, and impacts would be *less than significant*.

(b) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

The most prominent scenic features of the project site include the rolling hills throughout the proposed development area. The project site would not be visible from Highway 101 due to distance, the non-descript agricultural nature of the proposed development, and intervening agricultural uses and topography; and would therefore not be visible from any designated state scenic highway or eligible state scenic highway. No trees, rock outcrops or historic structures would be affected. Therefore, the project would not result in a substantial adverse effect on a scenic vista, and impacts would be *less than significant.*

(c) *In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

The visual character of the project vicinity is dominated by agricultural land uses including row crops, grazing, agricultural reservoirs, agricultural accessory structures, and scattered rural residences. Although Highway 101 has no official scenic designation, the roadway offers high-value views of rural agricultural landscapes. The proposed reservoir would not be visible from Highway 101 due to intervening topography, active agricultural uses, and distance. The agricultural reservoir would also be consistent with the existing visual character and quality of the area and existing adjacent uses. Therefore, impacts to the visual character and quality of the area would be *less than significant*.

(d) *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

The project does not propose the installation of lighting. Sun during the day can reflect off the water and cause glare; however, due to the limited visibility of the reservoir site and the consistency with existing adjacent uses, glare would not adversely affect public views in the area. Therefore, impacts relating to nighttime lighting and glare would be *less than significant*.

Conclusion

The project would be visually consistent with existing uses in the project vicinity and would not adversely affect scenic resources, quality, or character. Therefore, potential impacts on aesthetic resources would be less than significant and no mitigation measures are necessary.

Mitigation

No mitigation is required.

Sources

See Exhibit A.

II. AGRICULTURE AND FORESTRY RESOURCES

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
	In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
(a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
(b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
(c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
(d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
(e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Setting

The following area-specific elements relate to the property's potential for agricultural production:

Land Use Category: Agriculture

Historic/Existing Commercial Crops: Avocado and Citrus Orchards

State Classification: Prime Farmland, Farmland of State Importance, Grazing Land

In Agricultural Preserve? Yes

Under Williamson Act contract? Yes

Based on the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP) and the San Luis Obispo County Important Farmland Map (FMMP 2018), the project sites contains Farmland of Statewide Importance and Grazing Land. The soil type(s) and characteristics on the subject property include:

Arbuckle-San Ysidro complex (2 - 9% slope).

Arbuckle. This gently sloping coarse loamy soil is considered moderately drained. The soil has moderate erodibility and low shrink-swell characteristics, as well as having potential septic system constraints due to slow percolation. The soil is considered Class IV without irrigation and Class II when irrigated.

San Ysidro. This gently sloping coarse loamy soil is considered moderately to well drained. The soil has high erodibility and low shrink-swell characteristics, as well as having potential septic system constraints due to slow percolation. The soil is considered Class IV without irrigation and Class II when irrigated.

Arbuckle-Positas complex (15 - 30 % slope).

Arbuckle. This moderately to steeply sloping coarse loamy soil is considered moderately drained. The soil has moderate erodibility and low shrink-swell characteristics, as well as having potential septic system constraints due to steep slopes, slow percolation. The soil is considered Class IV without irrigation and Class IV when irrigated.

Positas. This moderately to steeply sloping coarse loamy soil is considered very poorly drained. The soil has moderate erodibility and low shrink-swell characteristics, as well as having potential septic system constraints due to steep slopes, slow percolation. The soil is considered Class IV without irrigation and Class IV when irrigated.

Nacimiento silty clay loam (9 - 30 % slope). This moderately sloping, fine loamy soil is considered not well drained. The soil has moderate erodibility and moderate shrink-swell characteristics, as well as having potential septic system constraints due to steep slopes, shallow depth to bedrock, slow percolation. The soil is considered Class IV without irrigation and Class IV when irrigated.

Nacimiento-Los Osos complex (9 - 30 % slope).

Nacimiento. This moderately sloping, fine loamy soil is considered not well drained. The soil has moderate erodibility and moderate shrink-swell characteristics, as well as having potential septic system constraints due to steep slopes, shallow depth to bedrock, slow percolation. The soil is considered Class IV without irrigation and Class IV when irrigated.

Los Osos. This moderately sloping, fine loamy soil is considered not well drained. The soil has moderate erodibility and moderate shrink-swell characteristics, as well as having potential septic system constraints due to steep slopes, shallow depth to bedrock, slow percolation. The soil is considered Class IV without irrigation and Class IV when irrigated.

Nacimiento-Los Osos complex (30 - 50 % slope).

Nacimiento. This steeply sloping, fine loamy soil is considered not well drained. The soil has moderate erodibility and moderate shrink-swell characteristics, as well as having potential septic system constraints due to steep slopes, shallow depth to bedrock, slow percolation. The soil is considered Class IV without irrigation and Class is not rated when irrigated.

Los Osos. This steeply sloping, fine loamy soil is considered not well drained. The soil has moderate erodibility and moderate shrink-swell characteristics, as well as having potential septic system constraints due to steep slopes, shallow depth to bedrock, slow percolation. The soil is considered Class IV without irrigation and Class is not rated when irrigated.

Discussion

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

The Rancho De Suenos LLC site includes various soils including those which are Farmland of Statewide Importance. The portion of the parcel to be disturbed by the proposed project is designated as Farmland of Statewide Importance. The reservoir is proposed to support existing agricultural use for crop production and grazing. Therefore, no Farmland would be converted to non-agricultural uses and potential impacts would be *less than significant.*

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

The subject property is within the Agriculture land use category and is not currently under a Williamson Act contract. The proposed agricultural reservoir is considered an agricultural use and would support the production of existing crop production and grazing. Therefore, the project would support existing agriculture and would not conflict with existing zoning for agricultural use or the existing Williamson Act Contract that the property is enrolled in. Potential impacts would be *less than significant.*

(c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?*

(d) *Result in the loss of forest land or conversion of forest land to non-forest use?*

There is no forest land, timberland, or timberland zoned Timberland Production or zoning for such uses in the project vicinity; *no impact would occur.*

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

The project proposes the development of an agricultural support facility and would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forestland to non-forest use. The project would be compatible with existing agricultural operations, would not adversely affect existing proximate agricultural uses, agricultural support services, or agricultural infrastructure or resources. Although the project will result in the pumping of an additional water from the groundwater basin to account for evaporation, an offset is not required because the site is not within a Level of Severity (LOS) III groundwater basin. Therefore, the creation and maintenance of the reservoir would not adversely affect groundwater supplies for proximate agricultural uses. The proposed project would not result

in the indirect conversion of existing farm or forestland to another use. Therefore, *no impacts would occur*.

Conclusion

The purpose of the proposed reservoirs is to provide onsite frost protection and irrigation for existing orchards and offsite transfer of reservoir water and/or other uses of the reservoirs would be prohibited. Therefore, potential impacts on agricultural resources would be less than significant and no mitigation is necessary.

Mitigation

None needed.

Sources

See Exhibit A.

III. AIR QUALITY

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:					
(a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
(b)	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?	☐	☐	☒	☐
(c)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
(d)	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Setting

The proposed reservoir site is located in the South Central Coast Air Basin (SCCAB) under the jurisdiction of the San Luis Obispo County Air Pollution Control District (SLOAPCD). The SLOAPCD has developed and updated a CEQA Air Quality Handbook (2012) and clarification memorandum (2017) to evaluate project specific impacts and help determine if air quality mitigation measures are needed, or if potentially significant impacts could result. To evaluate long-term emissions, cumulative effects, and establish countywide programs to reach acceptable air quality levels, a Clean Air Plan has been adopted (prepared by SLOAPCD).

San Luis Obispo County Clean Air Plan

San Luis Obispo County is currently in attainment of all state and federal standards for criteria air pollutants, except state standards for ozone (O_3) and Respirable Particulate Matter (PM_{10}). The SLOAPCD's San Luis Obispo County 2001 Clean Air Plan (CAP) is a comprehensive planning document intended to evaluate long-term emissions and cumulative effects and provide guidance to the SLOAPCD and other local agencies on how to attain and maintain the state standards for ozone and PM_{10}. The CAP presents a detailed description of the sources and pollutants which impact the jurisdiction's attainment of state standards, future air quality impacts to be expected under current growth trends, and an appropriate control strategy for reducing ozone precursor emissions, thereby improving air quality.

Naturally Occurring Asbestos

Naturally Occurring Asbestos (NOA) 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 a geologic evaluation should be 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. 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.

Discussion

(a) Conflict with or obstruct implementation of the applicable air quality plan?

Construction Impacts

The SLOAPCD CEQA Air Quality Handbook provides thresholds of significance for construction related emissions. Table 1 lists SLOAPCD's general thresholds for determining whether a potentially significant impact could occur as a result of a project's construction activities.

Table 1. SLOAPCD Thresholds of Significance for Construction Activities

Pollutant	**Threshold** (1)		
	Daily	**Quarterly Tier 1**	**Quarterly Tier 2**
Diesel Particulate Matter (DPM)	7 lbs	0.13 tons	0.32 tons
Reactive Organic Gases (ROG) + Oxides of Nitrogen (NO_X)	137 lbs	2.5	6.3 tons
Fugitive Particulate Matter (PM_{10}), Dust (2)	-	2.5 tons (2)	-

1. Daily and quarterly emission thresholds are based on the California Health and Safety Code and the CARB Carl Moyer Guidelines.
2. Any project with a grading area greater than 4.0 acres of worked area can exceed the 2.5-ton PM_{10} quarterly threshold.

As proposed, the project would result in the total disturbance of approximately 1.75 acres, including approximately 20,494 cubic yards of material moved.

The SLOAPCD CEQA Air Quality Handbook also provides preliminary screening construction emission rates based on the proposed volume of soil to be moved and the anticipated area of disturbance. Table 2 lists the SLOAPCD's screening emission rates that would be generated based on the amount of material to be moved. The APCD's CEQA Handbook also clarifies that any project that would require grading of 4.0 acres or more can exceed the 2.5-ton PM_{10} quarterly threshold listed above will have an impact.

Table 2. Standard Screening Emission Rates for Construction Activities

Pollutant	Grams/Cubic Yard of Material Moved	Lbs/Cubic Yard of Material Moved
Diesel Particulate Matter (DPM)	2.2	0.0049
Reactive Organic Gases (ROG)	9.2	0.0203
Oxides of Nitrogen (NO_X)	42.4	0.0935
Fugitive Particulate Matter (PM_{10})	0.75 tons/acre/month of construction activity (assuming 22 days of construction per month)	

Based on the cut estimates and the standard construction emission rates shown in Table 2, construction-related emissions that would result from the project were calculated and are shown in Table 3 below.

Table 3. Proposed Project Estimated Construction Emissions.

Pollutant	Total Estimated Emissions	SLOAPCD Threshold		Threshold Exceeded?
		Quarterly		
		Tier 1	Tier 2	
ROG + NO_X (combined)	1.17 tons	2.5 tons	6.3 tons	No
Diesel Particulate Matter (DPM)	0.05 tons	0.13 tons	.32 tons	No
Fugitive Particulate Matter (PM_{10})	1.31 tons	2.5 tons	-	No

As shown above, the project would not exceed any of the SLOAPCD's Tier 1 or Tier 2 thresholds for ROG, NOx, DPM, and PM10. For projects that exceed the 2.5 tons/quarter PM10 threshold, the SLOAPCD requires Fugitive PM10 Mitigation Measures.

Based on the volume of proposed grading, area of project site disturbance, estimated duration of the construction period, and the APCD's screening construction emission rates identified above, the project would not result in the emission of criteria pollutants that would exceed construction-related thresholds established by the SLOAPCD. The applicant shall implement standard Air Pollution Control District, State, or Federal measures to control dust.

Operational Impacts

The SLOAPCD's CEQA Air Quality Handbook provides operational screening criteria to identify projects with the potential to exceed APCD operational significance thresholds (refer to Table 1-1 of the CEQA Handbook). Based on Table 1-1 of the CEQA Handbook, the project does not propose a use that would have the potential to result in operational emissions that would exceed APCD thresholds. The project would not generate substantial new long-term traffic trips or vehicle emissions and does not propose construction of new direct (source) emissions. the project would not generate substantial operational emissions or increased energy demands. Therefore, potential operational emissions would be less than significant.

Based on the above analysis the project would not conflict or obstruct implementation of the applicable air quality plan and the project would be generally consistent with the San Luis Obispo County CAP. Therefore, project impacts related to implementation of an air quality plan would be *less than significant*.

(b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

San Luis Obispo County is currently designated as non-attainment for ozone (in the eastern part of the county) and PM_{10}. Project-related construction disturbances would further contribute to existing PM_{10} exceedances. New emissions associated with the proposed project would be almost entirely limited to temporary construction activities. As noted above, the project would not result in construction-phase emissions that would exceed SLOAPCD thresholds. Given that construction related emissions would not exceed the applicable thresholds and long-term operational emissions would be negligible, the project would have a less than cumulatively considerable effect on air quality. Therefore, cumulative project impacts would be *less than significant.*

(c) Expose sensitive receptors to substantial pollutant concentrations?

The reservoir site is generally surrounded by agricultural land uses, including row crops, and undeveloped hills used for grazing. There are no sensitive receptors within 1,000 feet of any of the reservoir site. There are two residences within 1 mile of the proposed Reservoir site (approximately 0.4 miles to the east and 0.45 miles to the west) and three onsite residence approximately 0.4 miles south. In addition, the project would be subject to standard mitigation measures for construction equipment and emissions. Therefore, the project would not result in substantial air pollutant concentrations within close proximity to a sensitive receptor and impacts would be *less than significant*.

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

Construction could generate odors from heavy diesel machinery and materials used for excavation and construction of the project. The generation of odors during the construction period would be temporary, would be consistent with odors commonly associated with typical construction equipment and activities, and would dissipate within a short distance from the active work area. The project site is almost entirely surrounded by existing orchards and undeveloped hillsides and no significant long-term operational emissions or odors would be generated by the project. Therefore, impacts related to other emissions adversely affecting a substantial number of people would be *less than significant*.

Conclusion

The project would not result in PM_{10} emissions that exceed the quarterly thresholds established by SLOAPCD for construction emissions or generate other related emissions that would have an adverse effect on a substantial number of people, nor would it conflict with any air quality plan. Therefore, no mitigation is required.

Mitigation

None required.

Sources

See Exhibit A.

IV. BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☒	☐	☐

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(c)	Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
(d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
(e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
(f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Setting

Federal and State Endangered Species Acts

The Federal Endangered Species Act of 1973 (FESA) provides legislation to protect federally listed plant and animal species. The California Endangered Species Act of 1984 (CESA) ensures legal protection for plants listed as rare or endangered, and wildlife species formally listed as endangered or threatened, and also maintains a list of California Species of Special Concern (SSC). SSC status is assigned to species that have limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. Under state law, the CDFW has the authority to review projects for their potential to impact special-status species and their habitats.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) protects all migratory birds, including their eggs, nests, and feathers. The MBTA was originally drafted to put an end to the commercial trade in bird feathers, popular in the latter part of the 1800s. The MBTA is enforced by the U.S. Fish and Wildlife Service (USFWS), and potential impacts to species protected under the MBTA are evaluated by the USFWS in consultation with other federal agencies and are required to be evaluated under CEQA.

Clean Water Act and State Porter Cologne Water Quality Control Act

The U.S. Army Corps of Engineers (USACE) regulates discharges of dredged or fill material into waters of the United States. These waters include wetland and non-wetland water bodies that meet specific criteria. USACE jurisdiction regulates almost all work in, over, and under waters listed as "navigable waters of the U.S." that results in a discharge of dredged or fill material within USACE regulatory jurisdiction, pursuant to Section 404 of the Clean Water Act (CWA). Under Section 404, USACE regulates traditional navigable waters, wetlands adjacent to traditional navigable waters, relatively permanent non-navigable tributaries that have a continuous flow at least seasonally (typically 3 months), and wetlands that directly abut relatively permanent tributaries.

The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) regulate discharges of fill and dredged material in California, under Section 401 of the CWA and the State Porter-Cologne Water Quality Control Act, through the State Water Quality Certification Program. State Water Quality Certification is necessary for all projects that require a USACE permit, or fall under other federal jurisdiction, and have the potential to impact waters of the State. Based on the U.S. Fish and Wildlife Service National Wetlands Inventory, the project site does not support wetlands, riparian or deep-water habitats (USFWS 2019).

Conservation and Open Space Element

The intent of the goals, policies, and implementation strategies in the COSE is to identify and protect biological resources that are a critical component of the county's environmental, social, and economic well-being. Biological resources include major ecosystems; threatened, rare, and endangered species and their habitats; native trees and vegetation; creeks and riparian areas; wetlands; fisheries; and marine resources. Individual species, habitat areas, ecosystems and migration patterns must be considered together in order to sustain biological resources. The COSE identifies Critical Habitat areas for sensitive species including California condor, California red legged frog, vernal pool fairy shrimp, La Graciosa thistle, Morro Bay kangaroo rat, Morro shoulderband snail, tiger salamander, and western snowy plover. The COSE also identifies features of particular importance to wildlife for movement corridors such as riparian corridors, shorelines of the coast and bay, and ridgelines. Project site does not provide habitat for Critical Habitat species.

Site Setting

The proposed 9.75-acre/foot agricultural reservoir is approximately 300 feet long by 125 feet wide and 14 feet deep with a total area of disturbance estimated to be 1.75 acres. The project is located on a vacant portion of a 310-acre parcel is located at 00001 Allende Road, approximately 1 mile northwest of the community of San Miguel. The site is moderately sloping with elevation ranges from approximately 660 to 820 feet above mean sea level. No wetland or riparian habitats are present on the project site. The surrounding area use is primarily cattle ranch land or agricultural fields.

Kevin Merk Associates, LLC., preformed a series of field surveys of the project site and prepared a Biological Report, in September of 2019 (Kevin Merk Associates, LLC., February 2021) for the proposed project. This report includes information and analysis on potential impacts and proposed mitigation measures related to the currently proposed reservoir.

The proposed location of the reservoir is on hillside within annual grassland and blue oak woodland/ savanna habitats on the Rancho De Suenos property. Ephemeral drainage features are present, but no streams or drainages are present in the study area.

No potentially jurisdictional wetlands or waters are present in the study area or within 100 feet of the project footprint. The study area is not part of a significant wildlife movement corridor although numerous common animals are likely to move through the area periodically or seasonally.

Habitat Types

The primary land use type on the Property is agriculture comprised of an active vineyard. The reservoir site is surrounded by vineyard blocks, and small sections of the vineyard extend into the reservoir study area as shown on Figure 2, the Habitat Map. The reservoir study area was mostly bare soils that have been repeatedly disked limiting the extent of surface vegetation. Ruderal and agricultural areas are not natural habitat types and consist of grapes planted along trellises that are irrigated by dripline, agricultural roads, and disturbed bare soils. The entire agricultural lease was historically dry farmed, then left fallow, and then deep ripped and disked in 2019 for planting. The reservoir footprint was not planted at that time, but has been repeatedly disked as part of site maintenance. At the time of the December 2020 survey, the area had been disked with only scattered remnants of annual grasses and forbs present.

During the initial surveys of the site conducted in summer of 2018 and spring of 2019, the vineyard area was composed of weedy annual grasses and scattered coyote brush shrubs typical of old dry farmed fields in the region that have gone fallow. Very low species diversity was noted during the surveys and no bulb-forming plants were observed, which is indicative of dry-farmed grain fields that have repeatedly disturbed the topsoil. Blue oak woodland and savanna are present in select drainage corridors or on steep slopes on the larger Property that were outside the historic farming footprint. Long term dry farming the majority of the site resulted in the re-established grassland dominated by weedy species such as oats (*Avena spp.*), ripgut brome (*Bromus diandrus)*, and red-stemmed filaree (*Erodium cicutarium)*. Prior to the vineyard development, the site was heavily grazed. Steeper slopes outside the reservoir footprint that were not accessible by the tractor and disk had patch occurrences of native species such as purple owl's clover (*Castilleja exserta*) and narrow leaf milkweed (*Asclepias fascicularis*).

The CNDDB search did not identify any special status plan communities within five miles of the site. The biologist identified six (6) special status plant communities within the general region that were evaluated in the study, including: California Sycamore Woodlands, Central Coast Arroyo Willow Riparian Forest/Scrub, Coastal and Valley Freshwater Marsh, Vernal Pool, Valley Needlegrass Grassland, and Valley Oak Woodland. None of these special status plan communities was observed in the reservoir study area.

The County has established procedures for the mitigation of potential impacts to San Joaquin kit fox (SJKF). If the project site lies within the kit fox habitat area and the site is less than 40 acres in size, the pre-determined standard mitigation ratio for the project area is applied. The standard mitigation ratio is based on the results of previous kit fox habitat evaluations and determines the amount of mitigation acreage based on the total area of disturbance from project activities.

If the project occurs on a site of 40 acres or more, a habitat evaluation must be prepared by a qualified biologist. The habitat evaluation is submitted to the County who reviews the application for completeness and conducts a site visit. A SJKF habitat evaluation was completed by Kevin Merk Associates (KMA 2021) and has been submitted to the CDFW for review and comment in November 2020. After review, CDFW will then determine the mitigation ratio for the project which in turn determines the total amount of acreage needed to mitigate for the loss of habitat based on the total area of permanent disturbance. Mitigation for the loss of kit fox habitat may be provided by one of the following:

1. Establishing a conservation easement on-site or off-site in a suitable San Luis Obispo County location and provide a non-wasting endowment for management and monitoring of the property in perpetuity;
2. Depositing funds into an approved in-lieu fee program; or
3. Purchasing credits in an approved conservation bank in San Luis Obispo County.

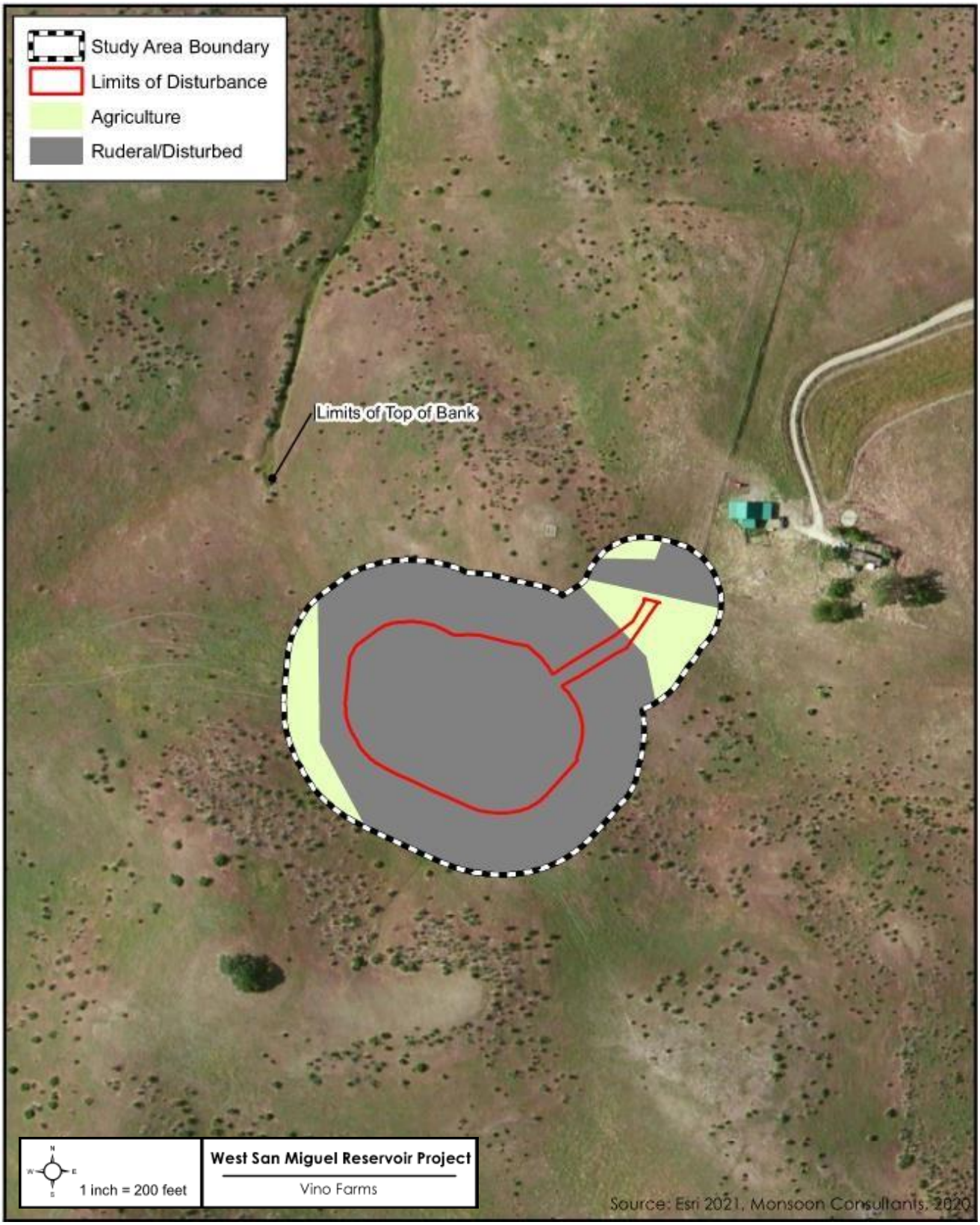


Figure 2. Biological Resource map.

Discussion

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

Special Status Wildlife

A suite of special-status plant and animal species that are known to occur in the site vicinity were evaluated to determine their potential to occur in the study area. As seen in the review of historic aerial photographs and during the field surveys, the property has been disturbed over a long period by dry farming, vineyard development and human presence. The farming activities preclude rare plant species from occurring onsite from the regular cycle of disturbance, which favors non-native plants. While some special-status plant species can tolerate disturbance, the spring surveys conducted in 2019 confirmed the reservoir study area and larger Property do not support rare plant occurrences.

The project site is situated within the outer limits of a SJKF satellite population, and numerous records of the species are present near the site. The records within three miles of the site are from before 2002, and the most recent sighting in the vicinity is from 2007. The Camp Roberts satellite population is known to have declined drastically almost to the point of extirpation, but if movement to this large area of suitable habitat occurs, there is potential for the SJKF to become re-established or exist in low numbers that are not detectable under current survey techniques. Therefore, the chance that SJKF could occur in the study area cannot be ruled out, especially considering the amount of available habitat on the adjacent Camp Roberts property and lack of substantial movement barriers. Because the study area has some moderate to steeply sloping hills, it is less likely that SJKF would use the subject property for denning or foraging, since they prefer less steep terrain. Still, they could move through the site during periods of migration or in search of suitable prey.

The special-status animal species identified as having potential to occur onsite are mobile species that would only use the site periodically while foraging or moving through the area, without using the site for breeding. Species considered to be mobile include foraging birds and bats, as well as the transitory American badger and SJKF. Because the birds and bats are mobile and are not expected to nest in the reservoir disturbance area due to the lack of trees or shrubs or grassland habitats, they could move away from construction activities. Additionally, foraging behavior of bats is not expected to be affected because construction activities would take place during the day and bats forage at night. Birds and bats could continue to forage over the site after the reservoir is constructed. Vineyards separate the reservoir site from potential nest and roost sites in oak trees and shrubs in the nearby drainage corridors by over 250 feet. While unlikely, a SJKF or American badger could move through the reservoir area and be present when construction activities commence. As such, no direct effects of the project are expected on nesting birds or roosting bats, but the project could affect SJKF and the American badger if they were to be onsite when construction commences.

Overall, there would be no significant negative effect on wildlife habitat as a result of construction of the reservoir project because a minimal amount of disturbed bare soils between vineyard blocks would be lost. Ample areas of grasslands and oak woodland/savanna habitats are present surrounding the project site along the drainage corridors as well as on Camp Roberts and the large acreage residential lots surrounding the site. The project site occurs within designated critical habitat for the vernal pool fairy shrimp, but lacks the primary constituent elements of critical habitat and no potentially suitable habitat for VPFS or other listed branchiopods was present since no pools or areas

of seasonally ponded water were identified. Project effects on wildlife habitat are discussed in further detail below.

San Joaquin kit fox

The San Joaquin kit fox (*Vulpes macrotis mutica*; SJKF) is federally Endangered and state Threatened. It occurs in grasslands, sparse shrublands, and some agricultural areas where there is flat terrain. SJKF use dens for temperature regulation, shelter, reproduction, and escape from predators, and are usually found in areas with loose-textured sandy soils. They may dig their own dens but often modify and use burrows constructed by other animals such as ground squirrels, badgers, and coyote. They may also use human-made structures (e.g., culverts and abandoned pipes) as dens. SJKF change dens often, such that numerous dens may be used throughout the year and actively used dens may not always show sign of use. The subject property is located at the outer southern edge of a satellite population in the Salinas and Pajaro River watersheds (Camp Roberts/Fort Hunter Liggett) (USFWS 1998, 2010).

While the Carrizo Plain population remains at sustaining levels, the Camp Roberts population severely declined likely as a result of rabies (White et al. 2000). This population declined drastically from 1988 to 1991 and was been thought to possibly be extirpated (White et al. 2000). Additionally, rodenticide poisoning of the population was documented in 1992 (CDFW 2020a).

There have been infrequent sightings following the decline, with the most recent observation on Camp Roberts in 2007 (CDFW 2020a). Surveys have continued on Camp Roberts, but none have been found since 2007 (CDFW 2020a). Large areas of suitable habitat remain in the Salinas and Pajaro river satellite area; therefore, it is possible that the population could recover especially if there is continuing linkage with the core population on the Carrizo Plain. Considerable habitat has been lost in the corridor area, however, as a result of urban and vineyard development, with associated fencing and large tracts of crops or urban development, which can be a barrier to SJKF movement.

The current status of SJKF in the corridor area is not well understood. In 2014, SJKF were detected at four locations in the Whitley Gardens area in which bait stations were erected at former known SJKF locations, and scat was collected and identified using DNA analysis. In these situations, SJKF dens and other sign had been documented in the early 1990s, but there were no other detections since then. The bait station/DNA study suggests that SJKF may be present at other locations in the area in which they have not recently been detected by conventional methods. In addition, it also suggests that the eastern Paso Robles corridor may still be in use as a linkage between the Carrizo Plain Core Area and the Camp Roberts satellite area, and the project site falls within this general satellite area. A SJKF Habitat Evaluation for the subject property was prepared by KMA and submitted to the California Department of Fish and Wildlife for which no response was received. This study detailed that although historically the SJKF was known to occur in the immediate area of the property, there have been no recorded sightings within three miles within the last ten years. No potential dens or sign (i.e., scat, tracks or prey remains) were observed in the study area during the focused surveys. The SJKF Habitat Evaluation resulted in a score of 68 which requires that all impacts to kit fox habitat be mitigated at a ratio of three acres conserved for each acre impacted (2:1).

While the project site is surrounded by contiguous suitable habitat as defined in the evaluation, the ongoing farming and presence of residential development on large lots to the south reduces the quality of the onsite features for SJKF. Expansive open space areas are present on Camp Roberts to the west and north, which would provide higher quality habitat for this species. The moderate to steep degree of slope on the site may further decrease the chance that SJKF would use the study area since

they typically don't use steeper terrains. No California ground squirrels were seen in the reservoir study area during the surveys, but they were seen on adjacent properties. Therefore, while some potential prey may be present in the site vicinity, if SJKF were present in the general area, it is unlikely they would occupy the study area due to only marginally suitable conditions and steeper terrain. They would be more likely to use the large tract of mostly undeveloped habitat on Camp Roberts to the north and west where historic records are located, but the chance for transient individuals to occur onsite periodically cannot be ruled out. As such, implementation of mitigation measures BR-1 through BR-4 would reduce construction related impacts to less than significant levels. Indirect impacts would be reduced to less than significant with incorporation of mitigation measure BR-6

American badger

American badgers are highly mobile and could move through the area in search of prey. They could also have dens on or near the site in which they raise their young or utilize for refuge. Maternal or natal dens may be occupied in the spring and summer. Adults that are not raising young may be present in dens during the daytime at any time of year. Construction equipment or activities could injure or kill individuals in work areas. Ground-disturbing activities could remove dens or burrows used by these species. Implementation of mitigation measure BR-5 would reduce potential project impacts on the American badger to a level below significance, and can be implemented concurrently with BR-1 through BR-4.

Hoary bat

The hoary bat (Lasiurus cinereus) does not have a specific regulatory status but is recorded in the CNDDB and is on CDFW's (2020) list of Special Animals. This species occurs in open habitats or habitat mosaics along woodland edges. They prey on moths and other flying insects. Roost sites are in dense foliage of large trees, and maternity roosts are in woodlands and forests with medium to large trees. They winter along the coast and in southern California, and breed inland and in northern parts of the state. During migration, males are found in foothills, deserts and mountains, and females in lowlands and coastal valleys (CDFW 2020c). They could potentially roost in nearby oak trees and forage over the site, or occur over the reservoir study area during migration on a transitory basis.

Pallid bat

The pallid bat (Antrozous pallidus) is a CDFW Species of Special Concern. This species forages in a variety of dry, open habitats such as grassland, deserts, woodland, shrubland and coniferous forest. Maternity and winter roosting sites are cavities or caves in rock features, large trees or buildings, and these structures must substantially moderate temperature. Day roosts are in caves, crevasses, mines and occasionally hollow trees or buildings. Night roosts are in more open areas such as porches or agricultural buildings. They forage on beetles, moths, spiders, scorpions and Jerusalem crickets (CDFW 2020d). There are records of the species from the vicinity, and while there is no roosting habitat in the study area, this species could fly over an forage over the reservoir site.

Townsend's big eared bat

Townsend's big-eared bat (Corynorhinus townsendii) is a CDFW Species of Special Concern. This species occurs in a variety of habitats, including dry upland areas, semidesert, coniferous forest, and riparian woodland. They prefer foraging along the edges of riparian vegetation and they drink water from ponds. They roost in caves, mines, abandoned buildings and under bridges (Gruver and Keinath 2006). There are several records in the vicinity; primarily near the Salinas River and Nacimiento Lake, with multiple roost sites documented in buildings at Camp Roberts (CDFW 2020a). The agricultural

and disturbed/ruderal areas onsite could be suitable for foraging, but there are no aquatic resources onsite, thereby reducing the value of the site as foraging habitat. No suitable roosting habitat is present onsite, but larger trees in the drainage corridors could be used, albeit unlikely. The property is likely in close enough proximity to the Salinas River that they could occur periodically.

Migratory Birds and Raptors

There are numerous bird species with potential to occur in the vicinity that can build nests in nearby trees and shrubs, and potentially fly over or forage on the reservoir study area. Many of the raptors or birds of prey known to occur in the region are species of special concern, and are so listed primarily because their preferred habitats have been fractured and extensively reduced by agriculture and urbanization. Birds of prey such as the golden eagle (Aquila chrysaetos) and bald eagle (Haliaeetus leucocephalus) have extensive ranges that cover many habitats, and can be expected as rare to common transients in the vicinity of the study area. Given the ongoing farming operations and regular human presence, larger raptor species are unlikely to occur in the reservoir study area, especially considering its small size, lack of prey, and no trees for roosting. The loggerhead shrike (Lanius ludovicianus) is known to occur in the general region, and was identified as potentially occurring onsite since it could nest in the trees and shrubs in nearby drainages and forage in the vineyards. Even though they were not listed in the CNDDB, they have the potential to occur onsite based on the presence of suitable habitat in the drainage corridors and could move through the study area while foraging and perch on the nearby vineyard trellises.

Vernal Pool Ferry Shrimp

The project site falls within Unit 29F of designated critical habitat for vernal pool fairy shrimp. No suitable habitat for vernal pool fairy shrimp occurs onsite. The onsite topography is sloping and lacks topographic depressions supporting seasonally ponded water, and the soils are well-drained and lack a claypan or hardpan layer that could perch water at the surface. The drainage features onsite are outside the reservoir study area, and would be avoided and buffered by the project. The primary constituent elements of critical habitat for vernal pool fairy shrimp are absent from the site. Therefore, there would be no adverse effects of the project on critical habitat for this species.

Special-Status Plants

As discussed above, no special-status plant species were observed onsite during the initial surveys prior to vineyard development. The spring 2019 surveys were conduced in late March and early April when rare annual plants known to occur in the region would have been in flower and in identifiable condition. The onsite grassland was dominated by weedy species as the result of years of disking and dry farming activities, and no rare perennial species were observed. The CNDDB documented occurrences of special-status plant species within five miles of the site which were cross-checked with observations recorded by the Calflora and the Consortium of California Herbaria (2021). Based upon our analysis of the occurrence records, review of species' ecological requirements, and environmental conditions on the reservoir site, no special status plants are expected to occur in the reservoir study area.

Past farming of the site severely reduces the potential for special-status species from occurring on the focused study area or the larger property. Annual grassland and oak tree habitats in onsite drainages were also searched again in 2020, and these habitats were overrun by non-native species. As stated above, the lack of bulb forming plants and other perennial species is indicative of the disturbance

caused by historic farming activities on this site. The drainage corridors have been protected during vineyard development and now consist of dense growth of non-native species, which typically prevents the establishment of native species and outcompetes them for resources which typically prevents the establishment of native species and outcompetes them for resources (i.e. space, light, and nutrients) in the long term. Given the bare soils and ongoing disturbance associated with farming and maintenance of the reservoir study area, no special status plants are expected to occur on the proposed development footprint and be affected by construction activities.

(b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?*

No riparian habitat or sensitive natural communities occur within or adjacent to on the proposed project impact area. The agricultural and ruderal/disturbed areas within the project development footprint are not considered to be sensitive or of special regulatory status. No indirect effects, such as runoff of sediment or pollutants, are expected to occur on drainage features outside the reservoir disturbance zone because the drainage features would be buffered from work by a minimum of 50 feet. Therefore, impacts on riparian habitat or sensitive natural communities are not expected to occur as a result of the project, and no mitigation is required.

(c) *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

No wetland habitat is present on the reservoir study area or in adjacent areas. The site is located in a dry, upland area where there are no areas capable of ponding water that could support wetland plant species. Therefore, the project would have no effect on federally protected wetlands, and no mitigation is required.

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

The proposed project would not affect the movement of native fish because all work will be conducted in upland habitat, outside of any stream channel. No drainages are near the site with habitat conditions that could support fish.

The project site is located in an area in which there are ample corridors for wildlife movement, including the protected drainage features and associated grassland and oak tree habitats. The adjacent Camp Roberts is a large tract of mostly undeveloped land that is subject to land management activities to support wildlife use. Other properties surrounding the site are vineyards and large lots with a small fraction of dispersed residential development, creating a mosaic of habitat patches that can be used for wildlife movement. The project will involve construction of a reservoir with a perimeter fence, which would prevent the movement of medium- to large- mammals while not affecting movement of invertebrates, birds, bats, or reptiles. The small footprint of the proposed fenced area (approximately 1.75 acres) is not expected to affect wildlife corridors due to its small size and ample natural or semi-natural habitat areas surrounding the project site. Although the site occurs within the historic satellite population of the SJKF, the amount of slope on the site makes it unlikely to be used by this species should it ever re-colonize the area.

With mitigation described herein to compensate for the loss of potential SJKF habitat and ensure SJKF individuals are not directly affected during construction, which will also benefit other wildlife species, there would be no negative impacts of the project on wildlife corridors or movement.

The disturbed agricultural and ruderal habitats in the project impact area are not expected to be a wildlife nursery site for any species. Wildlife species that could breed in the area are not expected to occur in the impact area due to ongoing disking and surface disturbance. The majority of wildlife in the greater area would be dispersed throughout the abundant grassland and oak tree habitats on Camp Roberts to the north and west, and not focused in the project area for reproduction or other key life history stages. Therefore, there would be no impact of the project on wildlife nursery sites.

Because there would be no project impacts on the movement of native fish or wildlife, wildlife corridors or wildlife nursery sites, no mitigation is required.

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

The project does not propose the removal of any trees, and therefore is not subject to the County's Oak Woodland Ordinance. The project is not located in a Sensitive Resource Area (SRA) and there are no applicable planning area standards related to biological resource preservation. A sedimentation and erosion control plan would be required per LUO Section 22.52.120 to minimize potential impacts related to erosion and sedimentation, and includes requirements for specific erosion control materials, setbacks from creeks, and siltation. Therefore, the project would not conflict with any local policies or ordinances protecting biological resources and *no impacts* would occur.

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

The project is not located within an area covered by an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan, or other adopted HCP. Therefore, there would be *no impact.*

Conclusion

The project involves the construction of a reservoir on an agricultural property that has been historically dry-farmed for hay and was recently planted to vineyard. The project site consists of disturbed agricultural areas, with bare soils and planted grape vines. The drainage corridors on the larger Property contain weedy plants and scattered blue oak woodland and savanna. No sensitive natural communities occur within or near the project area. The site is located in dry upland habitat, and there are no topographic depressions in the project development area that can hold standing water, and no riparian or wetland habitat is within the project site or in the surrounding area. The drainage features in the project area are ephemeral and had no signs of flowing water present. The drainages are buffered from agricultural operations by a minimum of 50 feet, and would not be affected by the reservoir project. The analysis provided herein determined that no rare or special status plants are present onsite, and none are expected to occur due to the historic farming activities and dominance of non-native grasses and forbs prior to vineyard development.

The project involves the construction of a reservoir on an agricultural property that has been historically dry-farmed for hay and was recently planted to vineyard. The project site consists of disturbed agricultural areas, with bare soils and planted grape vines. The drainage corridors on the larger Property contain weedy plants and scattered blue oak woodland and savanna. No sensitive natural communities occur within or near the

project area. The site is located in dry upland habitat, and there are no topographic depressions in the project development area that can hold standing water, and no riparian or wetland habitat is within the project site or in the surrounding area. The drainage features in the project area are ephemeral and had no signs of flowing water present. The drainages are buffered from agricultural operations by a minimum of 50 feet, and would not be affected by the reservoir project. The analysis provided herein determined that no rare or special status plants are present onsite, and none are expected to occur due to the historic farming activities and dominance of non-native grasses and forbs prior to vineyard development.

The site occurs within the historic satellite population of the SJKF, and the SJKF habitat evaluation process determined that a 2:1 mitigation ratio would be required for affects to potential SJKF habitat that would be lost. The American badger also has the potential to occur within the project impact area. Mitigation for the SJKF and badger includes preconstruction surveys; avoidance of the species if found onsite and establishment of no-work buffer zones, if appropriate. Worker environmental training presented by a qualified biologist is also recommended along with regular biological monitoring. If escape ramps cannot be installed in excavation areas, then daily monitoring of excavations shall be conducted by a qualified biologist. Ultimately, none of the biological resources criteria under CEQA which trigger a mandatory finding of significance were met by this project. With the incorporation of the mitigation measures described herein, project impacts on special-status biological resources would be reduced to a level below significance.

Mitigation

BR-1 **Environmental Awareness Training.** Prior to major construction activities (e.g., site mobilization, clearing, grubbing, preparation for installing new facilities, etc.), an environmental awareness training shall be presented to all project personnel by a qualified biologist prior to the start of any project activities. The training shall include color photographs and a description of the ecology of all special-status species known or determined to have potential to occur, as well as other sensitive resources requiring avoidance near project impact areas. The training shall also include a description of protection measures required by the project's discretionary permits, an overview of the federal Endangered Species Act, the California Endangered Species Act, and implications of noncompliance with these regulations, as well as an overview of the required avoidance and minimization measures. A sign-in sheet with the name and signature of the qualified biologist who presented the training and the names and signatures of the trainees will be kept and provided to the County. If new project personnel join the project after the initial training period, they will receive the environmental awareness training from a designated crew member on site before beginning work. A qualified biologist will provide refresher trainings during site visits or other monitoring events.

BR-2 **San Joaquin Kit Fox (*Vulpes macrotis multica*; SJKF) Habitat Mitigation Alternatives.** Prior to issuance of grading and/or construction permits, the applicant shall submit evidence to the County that states that one or a combination of the following three San Joaquin kit fox (SJKF) mitigation measures has been implemented:

a. Provide for the protection in perpetuity, through acquisition of fee or a conservation easement of 3.5 acres of suitable habitat in the kit fox corridor area (e.g., within the San Luis Obispo County kit fox habitat area), either on site or off site, and provide for a non-wasting endowment to provide for management and monitoring of the property in perpetuity. Lands to be conserved shall be subject to the review and approval of the CDFW and the County.

This mitigation alternative (a.) requires that all aspects if this program must be in place before County permit issuance or initiation of any ground disturbing activities.

b. Deposit funds into an approved in-lieu fee program, which would provide for the protection in perpetuity of suitable habitat in the kit fox corridor area within San Luis Obispo County, and provide for a non-wasting endowment for management and monitoring of the property in perpetuity.

   Mitigation alternative (b.) can be completed by providing funds to The Nature Conservancy (TNC) pursuant to the Voluntary Fee-Based Compensatory Mitigation Program (Program). The Program was established in agreement between CDFW and TNC to preserve SJKF habitat, and to provide a voluntary mitigation alternative to project proponents who must mitigate the impacts of projects in accordance with the CEQA. This fee is calculated based on the current cost-per-unit of $2,500 per acre of mitigation, which is scheduled to be adjusted to address the increasing cost of property in San Luis Obispo County; the actual cost may increase depending on the timing of payment. This fee must be paid after CDFW provides written notification about mitigation options but prior to County permit issuance and initiation of any ground disturbing activities. The fee, payable to "The Nature Conservancy", would total $8,750 based on $2,500 per acre (1.75 acres impacted * 2 *$2,500 per acre).

c. Purchase 7 (1.75 acres * 2) credits in a CDFW-approved conservation bank, which would provide for the protection in perpetuity of suitable habitat within the kit fox corridor area and provide for a non-wasting endowment for management and monitoring of the property in perpetuity.

   Mitigation alternative (c.) can be completed by purchasing credits from the Palo Prieto Conservation Bank. The Palo Prieto Conservation Bank was established to preserve SJKF habitat, and to provide a voluntary mitigation alternative to project proponents who must mitigate the impacts of projects in accordance with CEQA. The cost for purchasing credits is payable to the owners of The Palo Prieto Conservation Bank and would total $8,750 (1.75 acres * 2* $2,500). This fee is calculated based on the current cost-per-credit of $2,500 per acre of mitigation. The fee is established by the conservation bank owner and may change at any time. The actual cost may increase depending on the timing of payment. Purchase of credits must be completed prior to County permit issuance and initiation of any ground disturbing activities.

BR-3 San Joaquin Kit Fox Protection Measures.

1. **SJKF Protection Measures on Plans.** All SJKF protection measures required before construction (prior to any project activities) and during construction shall be included as a note on all project plans.

   a. Prior to issuance of grading and/or construction permits, the applicant shall clearly delineate the following as a note on the project plans: "Speed signs of 25 mph (or lower) shall be posted for all construction traffic to minimize the probability of road mortality of the San Joaquin kit fox". Speed limit signs shall be installed on the project site within 30 days prior to initiation of site disturbance and/or construction.

2. **Pre-construction Survey for SJKF.** Prior to issuance of grading and/or construction permits, the applicant shall provide evidence that they have retained a qualified biologist

acceptable to the County. The retained biologist shall perform the following monitoring activities:

a. A qualified biologist shall complete a pre-construction survey for SJKF no less than 14 days and no more than 30 days prior to the start of initial project activities to ensure SJKF is not present within all proposed work areas and at least a 250-foot buffer around work areas per USFWS Standard Recommendations (2011). The biologist will survey for signs of SJKF and known or potential SJKF dens. The result of the survey shall be submitted to the County within 5 days of the survey and prior to start of initial project activities. The submittal shall include the date the survey was conducted, survey method, and survey results, including a map of the location of any SJKF signs, and/or known or potential SJKF dens, if present. If no SJKF signs, potential or known SJKF dens are identified, then the SJKF Standard Protection Avoidance and Protection Measure shall be applied.

   i. If the qualified biologist identifies potential SJKF den(s), the den(s) will be monitored for 3 consecutive nights with an infra-red camera, prior to any project activities, to determine if the den is being used by SJKF. If no SJKF activity is observed during the 3 consecutive nights of camera placement then project work can begin with the Standard SJKF Avoidance and Protection Measures and the SJKF Protection Measures if SJKF are observed.

   ii. If a known den is identified within 250-feet of any proposed project work areas, no work may start in that area.

   iii. If 30 days lapse between different phases of project activities (e.g., vegetation trimming and the start of grading), where no or minimal work activity occurs, the SJKF survey shall be updated.

BR-4 **Standard SJKF Avoidance and Protection Measures.** Throughout the life of the project,

1. If a SJKF is discovered at any time to be occupying an area within the project boundaries, all work must stop. The County will be notified, and they will consult with other agencies as needed.
2. A maximum of 25 mph speed limit shall be required at the project site during project activities. Speed limit signs shall be installed on the project site prior to start of all work.
3. All project activities shall cease at dusk and not start before dawn. This includes driving on the site for security purposes.
4. To prevent entrapment of SJKF and other special-status wildlife, all excavations, steep-walled holes or trenches greater than two feet deep shall be completely covered at the end of each work day by plywood or similar materials, or one or more escape ramps constructed of earth fill or wooden planks shall be installed a minimum of every 200 feet. All escape ramps shall be angled such that wildlife can feasibly use it to climb out of an area. All excavations, holes, and trenches shall be inspected daily for SJKF or other special-status species and immediately prior to being covered or filled. If a SJKF is entrapped, CDFW, USFWS, and the County will be contacted immediately to document the incident and advise on removal of the entrapped SJKF.

5. All pipes, culverts, or similar structures with a diameter of 4 inches or greater, stored overnight at the project site shall be thoroughly inspected for sheltering SJKF before burying, capping, or moving. All exposed openings of pipes, culverts, or similar structures shall be capped or temporarily sealed prior to the end of each working day. No pipes, culverts, similar structures, or materials stored on site shall be moved if there is a SJKF present within or under the material. A 50-foot exclusion buffer will be established around the location of the SJKF until it leaves. The SJKF shall be allowed to leave on its own before the material is moved.
6. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in animal-proof closed containers only and regularly removed from the site.
7. No deliberate feeding of wildlife shall be allowed.
8. Water sources shall be managed to ensure no leaks occur or are fixed immediately upon discovery in order to prevent SJKF from being drawn to the project area to drink water.
9. Trash will be disposed of into containers rather than stockpiling on site prior to removal.
10. Materials or other stockpiles will be managed in a manner that will prevent SJKF from inhabiting them. Any materials or stockpiles that may have had SJKF take up residence shall be surveyed (consistent with pre-construction survey requirements) by a qualified biologist before they are moved.
11. The use of pesticides or herbicides shall be in compliance with all local, state, and federal regulations so as to avoid primary or secondary poisoning of endangered species and the depletion of prey upon which SJKF depend.
12. Permanent fences shall allow for SJFK passage through or underneath by providing frequent openings (8-inch x 12-inch) or an approximately 4-inch or greater passage gap between the ground and the bottom of the fence. Any fencing constructed after issuance of a final permit shall follow the above guidelines.
13. During project activities and/or the operation phase, any contractor or employee that inadvertently kills or injures a SJKF or who finds any such animal either dead, injured, or entrapped shall be required to report the incident immediately to the applicant and County. In the event that any observations are made of injured or dead SJKF, the applicant shall immediately notify the USFWS, CDFW, and the County by telephone. In addition, formal notification shall be provided in writing within 3 working days of the finding of any such animal(s). Notification shall include the date, time, location, and circumstances of the incident.
14. If potential SJKF dens are identified on site during the pre-construction survey, a qualified biologist shall be on site immediately prior to the initiation of project activities to inspect the site and dens for SJKF activity. If a potential den appears to be active or there is sign of SJKF activity on site and within the above-recommended buffers, no work can begin.

BR-5 American Badger (*Taxidea taxus*) Protection Measures

1. **Pre-construction Survey for American Badger.** A qualified biologist shall complete a pre-construction survey for badgers no less than 14 days and no more than 30 days prior to the start of initial project activities to determine if badgers are present within proposed

work areas, in addition to a 200-foot buffer around work areas. The results of the survey shall be provided to the County prior to initial project activities.

a. If a potential den is discovered, it shall be inspected to determine whether they are occupied. The survey shall cover the entire property and shall examine both old and new dens. The den will be monitored for 3 consecutive nights with an infra-red, motion-triggered camera, prior to any project activities, to determine if the den is being used by an American badger. If potential badger dens are too long to completely inspect from the entrance, a fiber optic scope shall be used to examine the den to the end. Inactive dens may be excavated by hand with a shovel to prevent re-use of dens during construction.

b. If an active badger den is found, an exclusion zone shall be established around the den. A minimum of a 50-foot exclusion zone shall be established during the non-reproductive season (July 1 to January 31) and a minimum 100-foot exclusion zone during the reproductive season (February 1 to June 30). Each exclusion zone shall encircle the den and have a radius of 50 feet (non-reproductive season) or 100 feet (reproductive season, nursing young may be present), measured outward from the burrow entrance. To avoid disturbance and the possibility of direct take of adults and nursing young, and to prevent badgers from becoming trapped in burrows during construction activity, no grading shall occur within 100 feet of active badger dens between February and July. All project activities, including foot and vehicle traffic and storage of supplies and equipment, are prohibited inside exclusion zones. Exclusion zones shall be maintained until all project-related disturbances have been terminated, or it has been determined by a qualified biologist that the den is no longer in use. If avoidance is not possible during project construction or continued operation, the County shall be contacted. The County will coordinate with appropriate resource agencies for guidance.

c. If more than 30 days pass between construction phases (e.g., vegetation trimming and the start of grading), during which no or minimal work activity occurs, the badger survey shall be repeated.

BR-6 **Site Maintenance and General Operations.** The following measures are required to minimize impacts during active construction and ongoing operations. All measures applicable during construction shall be included on plans. All measures applicable to operation shall be clearly posted on-site in a location(s) visible to workers and anyone visiting the site:

1. The use of heavy equipment and vehicles shall be limited to the proposed project limits and defined staging areas/access points. The boundaries of each work area shall be clearly defined and marked with high visibility fencing (e.g., t-posts and yellow rope) and/or flagging. No work or travel shall occur outside these limits.

2. Project plans, drawings, and specifications shall show the boundaries of all work areas on site and the location of erosion and sediment controls, limit delineation, and other pertinent measures to ensure the protection of sensitive habitat areas and associated resources.

3. Staging of equipment and materials shall occur in designated areas at least 100 feet from aquatic habitat (e.g., swales, drainages, ponds, vernal pools, if identified on site).

4. Secondary containment such as drip pans shall be used to prevent leaks and spills of potential contaminants.
5. Washing of concrete, paint, equipment, and refueling and maintenance of equipment shall occur only in designated areas. Sandbags and/or absorbent pads shall be available to prevent water and/or spilled fuel from leaving the site.
6. Equipment shall be inspected by the operator daily to ensure that equipment is in good working order and no fuel or lubricant leaks are present.

Sources

See Exhibit A.

V. CULTURAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☐	☒	☐
(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☒	☒
(c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

Setting

The project is located in an area historically occupied by the Chumash and Salinan. The proposed agricultural pond site is approximately eight hundred feet from the nearest mapped blue line creek. Potential for the presence or regular activities of the Native American increases in close proximity to reliable water sources. Two archaeological reports were prepared within 1 mile of the subject property. After the review of the archaeology reports in proximity to the project site, it was determined that the potential for the presence of archeological resources cannot be ruled out completely. However, the proposed project site currently supports previously disturbed grasslands and operating vineyard which has been maintained by mowing and tilling to limit the establishment and growth of plants. Additionally, the areas surrounding the proposed site are maintained as active vineyards and the land is maintained in a similar manner to limit plant growth other than grapevines and to provide proper access to the plantings. The site is surrounded by active agricultural areas, including irrigated vineyards. No historic structures are present and no paleontological resources are known to exist in the area.

Impacts to historical or paleontological resources are not expected. The potential for significant paleontological or historical resources to be present at the site is very low and grading activities and subsurface disturbance would be limited. Therefore, impacts to cultural, paleontological and historical resources would be less than significant.

Discussion

(a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

The project is not located in an area that would be considered culturally sensitive due to lack of physical features typically associated with prehistoric occupation. The project is located on a portion of the parcel which has been previously disturbed, and no evidence of cultural materials have been noted on the property. Therefore, the proposed project will not cause a substantial adverse change in the significance of a historical resource and *no impacts* will occur.

(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

No known archaeological resources are present on the project site. In the event of an unanticipated discovery of archaeological resources during earth-moving activities, implementation of LUO Section 22.10.040 (Archeological Resources) would be required. This section requires that construction activities shall cease, and the department shall be notified so that the extent and location of discovered materials may be recorded by a qualified archaeologist, and disposition of artifacts may be accomplished in accordance with state and federal law. Therefore, the proposed project will not cause a substantial adverse change in the significance of a archaeological resource and *no impacts* will occur.

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

No human remains have been associated with the project site. However, in the unlikely event resources are uncovered during grading activities, implementation of LUO Section 22.10.040 (Archaeological Resources) would be required. This section requires that, in the event archaeological resources are encountered during project construction, construction activities cease, and the County Planning Department be notified of the discovery. If the discovery includes human remains, the County Coroner shall also to be notified. Therefore, the proposed project will not disturb any human remains and *no impacts* will occur.

Conclusion

There are no known historic or archaeological resources within or near the project site, and the probability of discovering unknown human remains is very low. No significant impacts on cultural resources would occur and no mitigation measures are required. In the event of an unanticipated discovery of archaeological resources during earth-moving activities, measure **CR-1** is required by LUO Section 22.10.040.

Mitigation

CR-1 In the event that archeological resources are unearthed or discovered during any construction activities, the following standards apply:

1. Construction activities shall cease, and the County of San Luis Obispo Project Manager shall be notified so that the extent and location of discovered materials may be recorded by a qualified archaeologist, and disposition of artifacts may be accomplished in accordance with state and federal law.

2. In the event archeological resources are found to include human remains, or in any other case when human remains are discovered during construction, the Coroner shall be notified in addition to the County of San Luis Obispo Project Manager so proper disposition may be accomplished.

Sources

See Exhibit A.

VI. ENERGY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
(b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

Setting

Pacific Gas & Electric Company (PG&E) is the primary electricity provider for urban and rural communities within the County of San Luis Obispo. Approximately 33% of electricity provided by PG&E is sourced from renewable resources and an additional 45% is sourced from greenhouse gas-free resources (PG&E 2017).

The County has adopted a Conservation and Open Space Element (COSE) that establishes goals and policies that aim to reduce vehicle miles traveled, conserve water, increase energy efficiency and the use of renewable energy, and reduce greenhouse gas emissions. This element provides the basis and direction for the development of the County's Energy Wise Plan (EWP), which outlines in greater detail the County's strategy to reduce government and community-wide greenhouse gas emissions through a number of goals, measures, and actions, including energy efficiency and development and use of renewable energy resources.

The EWP established the goal to reduce community-wide greenhouse gas emissions to 15% below 2006 baseline levels by 2020. Two of the six community-wide goals identified to accomplish this were to "[a]ddress future energy needs through increased conservation and efficiency in all sectors" and "[i]ncrease the production of renewable energy from small-scale and commercial-scale renewable energy installations to account for 10% of local energy use by 2020." In addition, the County has published an EnergyWise Plan 2016 Update to summarize progress toward implementing measures established in the EWP and outline overall trends in energy use and emissions since the baseline year of the EWP inventory, 2006.

The California Building Code (CBC) contains standards that regulate the method of use, properties, performance, or types of materials used in the construction, alteration, improvement, repair, or rehabilitation of a building or other improvement to real property. The CBC includes mandatory green building standards for residential and nonresidential structures, the most recent version of which are referred to as the 2019 Building Energy Efficiency Standards. These standards focus on four key areas: smart residential photovoltaic systems, updated thermal envelope standards (preventing heat transfer from the interior to the exterior and vice versa), residential and nonresidential ventilation requirements, and non-residential lighting requirements. While the CBC has strict energy and green-building standards, U-occupancy structures (such as greenhouses) are typically not regulated by these standards.

The County LUO includes a Renewable Energy Area combining designation to encourage and support the development of local renewable energy resources, conserving energy resources and decreasing reliance on environmentally costly energy sources. This designation is intended to identify areas of the county where renewable energy production is favorable and establish procedures to streamline the environmental review and processing of land use permits for solar electric facilities (SEFs). The LUO establishes criteria for project eligibility, required application content for SEFs proposed within this designation, permit requirements, and development standards (LUO 22.14.100). The project site is not located in a Renewable Energy Area combining designation.

Discussion

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

The proposed energy usage is approximately the same amount of energy that is currently required to irrigate the existing vineyard. The primary difference is that with the irrigation reservoir, water will be pumped and stored before use rather than pumped and immediately used. The project would not result in cumulatively considerable energy demand, generation of substantial new traffic, or significant intensification of land use that would generate substantial additional mobile or stationary emissions. The proposed project would be consistent with energy use of the other agricultural reservoirs in the area. The majority of energy usage would be during construction and the initial filling period of the reservoirs, at which point the pumps will be running at full capacity and filling the agricultural reservoir. After the initial filling is completed, the pumps will continue to use electricity but at a significantly reduced rate as their long-term use would be limited to maintaining the reservoirs' water level as opposed to running at full capacity to fill the reservoir. This energy use during operation is consistent with the historical energy use for irrigation of the vineyards and would not be out of character with this type of project or similar uses in the area. As a result, the implementation of the proposed reservoir would cause a *less than significant* impact in relation to the consumption of energy resources.

(b) *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

The project would not be located within the County's Renewable Energy Area combining designation, which is an area identified as favorable for renewable energy production but does not preclude the development of the site for other uses. The project's proposed use would be consistent with site's underlying land use designation and is consistent with the anticipated development for the area. As such, the project does not propose a use or activity that would otherwise conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, *no impacts* would occur.

Conclusion

The project would utilize approximately the same amount of energy as has historically been used to irrigate the existing vineyard and is consistent with the energy demand of other irrigation reservoirs. Therefore, potential impacts on energy resources would be less than significant.

Mitigation

No mitigation is required.

Sources

See Exhibit A.

VII. GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☒	☐
(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
(ii) Strong seismic ground shaking?	☐	☐	☒	☐
(iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
(iv) Landslides?	☐	☐	☒	☐
(b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
(d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐
(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)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

Setting

The Alquist-Priolo Earthquake Fault Zoning Act (Act) is a California state law that was developed to regulate development near active faults and mitigate the surface fault rupture potential and other hazards. The Act identifies active earthquake fault zones and restricts the construction of habitable structures over known active or potentially active faults. San Luis Obispo County is located in a geologically complex and seismically active region. The Safety Element of the County of San Luis Obispo General Plan identifies three active faults that traverse through the County and that are currently zoned under the State of California Alquist-Priolo Fault Zoning Act: the San Andreas, the Hosgri-San Simeon, and the Los Osos. The San Andreas Fault zone is located along the eastern border of San Luis Obispo County and has a length of over 600 miles. The Hosgri-San Simeon fault system generally consists of two fault zones: the Hosgri fault zone that is mapped off of the San Luis Obispo County coast; and the San Simeon fault zone, which appears to be associated with the Hosgri, and comes onshore near the pier at San Simeon Point, Lastly, the Los Osos Fault zone has been mapped generally in an east/west orientation along the northern flank of the Irish Hills.

The County's Safety Element also identifies 17 other faults that are considered potentially active or have uncertain fault activity in the County. The Safety Element establishes policies that require new development to be located away from active and potentially active faults. The element also requires that the County enforce applicable building codes relating to seismic design of structures and require design professionals to evaluate the potential for liquefaction or seismic settlement to impact structures in accordance with the Uniform Building Code.

Groundshaking refers to the motion that occurs in response to local and regional earthquakes. Groundshaking can endanger life and safety due to damage or collapse of structures or lifeline facilities. The

California Building Code (CBC) currently requires structures to be designed to resist a minimum seismic force resulting from ground motion.

Liquefaction is the sudden loss of soil strength due to a rapid increase in soil pore water pressures resulting from groundshaking during an earthquake. Liquefaction potential increases with earthquake magnitude and groundshaking duration. Low-lying areas adjacent to creeks, rivers, beaches, and estuaries underlain by unconsolidated alluvial soil are most likely to be vulnerable to liquefaction. The CBC requires the assessment of liquefaction in the design of all structures. Although portions of the site have a moderate potential for liquefaction, the project is located in an area with low potential for liquefaction.

Landslides and slope instability can occur as a result of wet weather, weak soils, improper grading, improper drainage, steep slopes, adverse geologic structure, earthquakes, or a combination of these factors. Despite current codes and policies that discourage development in areas of known landslide activity or high risk of landslide, there is a considerable amount of development that is being impacted by landslide activity in the County each year. The County Safety Element identifies several policies to reduce risk from landslides and slope instability. These policies include the requirement for slope stability evaluations for development in areas of moderate or high landslide risk, and restrictions on new development in areas of known landslide activity unless development plans indicate that the hazard can be reduced to a less than significant level prior to beginning development. The project is located in an area with high potential for landslides.

Shrink/swell potential is the extent to which the soil shrinks as it dries out or swells when it gets wet. Extent of shrinking and swelling is influenced by the amount and kind of clay in the soil. Shrinking and swelling of soils can cause damage to building foundations, roads, and other structures. A high shrink/swell potential indicates a hazard to maintenance of structures built in, on, or with material having this rating. Moderate and low ratings lessen the hazard accordingly. According the NRCS, Diablo and Cibo clays (15 - 30 % slope) and Lodo Clay loam (30-50% slope) underlying the site is characterized as having a moderate to moderately low erodibility and low shrink-swell characteristics, a having potential septic system constraints due to steep slopes and slow percolation. However, a Soils Engineering Report prepared by GeoSolutions, Inc (GeoSolutions Inc., October 2019) concluded that the site was suitable for the proposed project.

The County LUO identifies a Geologic Study Area (GSA) combining designation for areas where geologic and soil conditions could present new developments and their users with potential hazards to life and property. All land use permit applicants located within a GSA are required to include a report prepared by a certified engineering geologist and/or registered civil/soils engineer as appropriate. This report is then required to be evaluated by a geologist retained by the County. In addition, all uses within a GSA are subject to special standards regarding grading and distance from an active fault trace within an Earthquake Fault Zone (LUO 22.14.070). The project is not located within a GSA combining designation;. Therefore, evaluation by the County Geologist is not required.

The County Conservation and Open Space Element (COSE) identifies a policy for the protection of paleontological resources from the effects of development by avoiding disturbance where feasible. Paleontological sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils

The reservoir site is moderately rolling and is not located within a GSA. Landslide and liquefaction potential of the site is considered low and high and the soils have moderate shrink/swell (expansive) potential. The nearest known fault line is an unknown potentially capable fault located approximately 5 miles southwest of the Reservoir. There are known serpentine or ultramafic rocks/soils on the project site. There are no other notable geologic features.

Discussion

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

(a-i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

The project site is not located within an Alquist-Priolo Fault Hazard Zone, and there are no mapped active faults crossing or adjacent to the site. The closest known fault is approximately 5 miles southwest of the Reservoir site. A Soils Engineering Report was prepared for the reservoir site by prepared by GeoSolutions, Inc (GeoSolutions Inc., October, 2019) and provided similar conclusions for the reservoir and provided recommendations for site preparation, grading, and foundations. In addition, the proposed project would be subject to professional engineering and construction standards to ensure the reservoir is constructed in a stable manner. Therefore, the potential for impacts related to surface ground rupture to occur at the reservoir site is low, and potential impacts would be *less than significant*.

(a-ii) Strong seismic ground shaking?

The project would be required to comply with the California Building Code (CBC) to ensure the effects of a potential seismic event would be minimized to the greatest extent feasible. The project would not be open to the public and would be unmanned except for occasional maintenance operations. Therefore, impacts related to the production of strong seismic ground shaking would be *less than significant*.

(a-iii - a-iv) Seismic-related ground failure, including liquefaction? Landslides?

Based on the County Safety Element Liquefaction Hazards Map and the County Safety Element Landslides Hazards Map, the reservoir site is located in an area with low potential for liquefaction and high potential for landslides. The soils engineering report prepared for the site determined that based on the consistency and relative density of the in-situ soils, the potential for liquefaction to occur is considered low. Additionally, since there will be no structures built at the reservoir site and employees will rarely be on site, the likelihood of a landslide or liquefaction resulting in loss, injury, or death is considered low. The geotechnical reports provide recommendations for site preparation, grading, and foundations. Incorporation of the preliminary geotechnical recommendations as well as professional engineering standards and CBC requirements would ensure the project is designed to adequately address potential liquefaction and landslide related impacts. Therefore, potential impacts would be *less than significant*.

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

The reservoir would result in a total disturbance of approximately 1.75 acres, including approximately 10,275 cubic yards of cut, 10,169 cubic yards, and 106 cubic yards to be exported off- site. The greatest potential for onsite erosion to occur would be during the initial site preparation and grading during construction. A sedimentation and erosion control plan is required for all construction and grading projects (LUO Section 22.52.120) to minimize potential impacts related to erosion and sedimentation, and includes requirements for specific erosion control materials, setbacks from creeks, and siltation.

In addition, the project would be subject to Regional Water Quality Control Board (RWQCB) requirements for preparation of a Storm Water Pollution Prevention Plan (SWPPP) (for projects that disturb more than 1.0 acre of land) which may include the preparation of a Storm Water Control Plan to further minimize onsite sedimentation and erosion. The soils engineering report prepared a slope stability analysis and determined the tested section reflect stable conditions. There are no concerns of loss of topsoil as a result of the ag reservoir, therefore, impacts would be *less than significant*.

(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?

Landslides typically occur in areas with steep slopes or in areas containing escarpments. Based on the Landslide Hazards Map provided in the County Safety Element, the project site is not located in an area with slopes susceptible to local failure or landslide.

The project would be required to comply with CBC seismic requirements to address potential seismic-related ground failure including lateral spread. Based on the County Safety Element and USGS data, the project is not located in an area of historical or current land subsidence (USGS 2019). Based on the County Safety Element Liquefaction Hazards Map, the project site is located in an area with low potential for liquefaction risk. The project is not located within the GSA combining designation, and the site is suitable for the proposed project based on the soils engineering report. Therefore, impacts related to on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse would be *less than significant*.

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

Based on the Soil Survey of San Luis Obispo County and Web Soil Survey, the project site is not located within an area known to contain expansive soils as defined in the Uniform Building Code. The project site is located on soil units with a moderate shrink-swell (expansive) potential. Therefore, impacts to life or property related to expansive soils would be *less than significant*.

(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?

The project is the construction of an agricultural reservoir to serve existing agricultural uses and does not propose the installation or use of septic tanks or waste water disposal systems. Therefore, there would be *no impact*.

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

There are no known unique paleontological resources or unique geological features located within the project site and the area has a low potential for encountering important fossils. Therefore, impacts would be *less than significant*.

Conclusion

Based on compliance with existing regulations and recommendations in the Soils Engineering Report, implementation of the sedimentation and erosion control measures as specified in project plans, and compliance with the measures outlined in the County's LUO and codes, impacts to geologic and soil resources would be *less than significant.*

Mitigation

No mitigation measures beyond County standards are required.

Sources

See Exhibit A.

VIII. GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
(b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Setting

Greenhouse gases (GHG) are any gases that absorb infrared radiation in the atmosphere, and are different from the criteria pollutants discussed in Section III, Air Quality, above. The primary GHGs that are emitted into the atmosphere as a result of human activities are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated gases. These GHGs are most commonly emitted through the burning of fossil fuels (oil, natural gas, and coal), agricultural practices, decay of organic waste in landfills, and a variety of other chemical reactions and industrial processes (e.g., the manufacturing of cement).

Carbon dioxide is the most abundant GHG and is estimated to represent approximately 80-90 percent of the principal GHGs that are currently affecting the earth's climate. According to CARB, transportation (vehicle exhaust) and electricity generation are the main sources of GHGs in the state.

In October 2008, CARB published its *Climate Change Proposed Scoping Plan*, which is the state's plan to achieve GHG reductions in California required by Assembly Bill (AB) 32, which codifies the Statewide goal of reducing emissions to 1990 levels by 2020 (essentially a 15 percent reduction below 2005 emission levels) and the adoption of regulations to require reporting and verification of statewide GHG emissions. The Scoping Plan included CARB-recommended GHG reductions for each sector of the state's GHG emissions inventory. The largest proposed GHG reduction recommendations were associated with improving emissions standards for light-duty vehicles, implementing the Low Carbon Fuel Standard program, implementation of energy efficiency measures in buildings and appliances, the widespread development of combined heat and power systems, and developing a renewable portfolio standard for electricity production.

Senate Bill (SB) 32 and Executive Order (EO) S-3-05 extend the state's GHG reduction goals and require CARB to regulate sources of GHGs to meet a state goal of reducing GHG emissions to 1990 levels by 2020, 40 percent

below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. The initial Scoping Plan was first approved by CARB on December 11, 2008 and is updated every 5 years. The first update of the Scoping Plan was approved by the CARB on May 22, 2014, which looked past 2020 to set mid-term goals (2030–2035) toward reaching the 2050 goals. The most recent update released by CARB is the 2017 Climate Change Scoping Plan, which was released in November 2017. The 2017 Climate Change Scoping Plan incorporates strategies for achieving the 2030 GHG-reduction target established in SB 32 and EO S-3-05.

Pursuant to Section 8203 (g) of the Title 3, Division 8, Chapter 1 of the California Code of Regulations, beginning January 1, 2022, the California Department of Food and Agriculture (CDFA) will require cultivation applicants to disclose the GHG emission intensity (per kWh) of their utility provider and show evidence that the electricity supplied is from a zero net energy source.

When assessing the significance of potential impacts for CEQA compliance, an individual project's GHG emissions will generally not result in direct significant impacts because the climate change issue is global in nature. However, an individual project could be found to contribute to a potentially significant cumulative impact. Projects that have GHG emissions above the noted thresholds may be considered cumulatively considerable and require mitigation.

Accordingly, in March 2012, the SLOAPCD approved thresholds for GHG impacts that were incorporated into their 2012 CEQA Air Quality Handbook. The Handbook recommended applying a 1,150 $MTCO_2e$ per year Bright Line Threshold for commercial and residential projects and included a list of general land uses and estimated sizes or capacities of uses expected to exceed this threshold. According to the SLOAPCD, this threshold was based on a 'gap analysis' and was used for CEQA compliance evaluations to demonstrate consistency with the state's GHG emission reduction goals associated with the Global Warming Solutions Act (AB32) and the 2008 Climate Change Scoping Plan which have a target year of 2020. However, in 2015, the California Supreme Court issued an opinion in the case of *Center for Biological Diversity vs California Department of Fish and Wildlife* ("Newhall Ranch") that determined that AB 32 based thresholds derived from a gap analysis are invalid for projects with a planning horizon beyond 2020. Since the bright-line and service population GHG thresholds in the Handbook are AB 32 based, and project horizons are now beyond 2020 and the SLOAPCD no longer recommends the use of these thresholds for CEQA evaluations. Instead, the following threshold options are recommended for consideration by the lead agency:

- Consistency with a Qualified Climate Action Plan: CAPs conforming to CEQA Guidelines § 15183 and 15183.5 would be qualified and eligible for project streamlining under CEQA.

  The County of San Luis Obispo EnergyWise (EWP), adopted in 2011, serves as the County's GHG reduction strategy. The GHG-reducing policy provisions contained in the EWP were prepared for the purpose of complying with the requirements of AB 32 and achieving the goals of the AB 32 Scoping Plan, which have a horizon year of 2020. Therefore, the EWP is not considered a qualified GHG reduction strategy for assessing the significance of GHG emissions generated by projects with a horizon year beyond 2020.

- No-net Increase: The 2017 Scoping Plan states that no-net increase in GHG emissions relative to baseline conditions "*is an appropriate overall objective for new development*" consistent with the Court's direction provided by the Newhall Ranch case which demonstrated that no-net GHG increase was feasible and defensible. Although a desirable goal, the application of this threshold may not be appropriate for a small project where it can be clearly shown that it will not generate significant GHG emissions (ie, di minimus: too trivial or minor to merit consideration).

- Lead Agency Adopted Defensible GHG CEQA Thresholds: Under this approach, a lead agency may establish SB 32-based local operational thresholds:
    - *Meeting Local GHG Emission Targets with Best Management Practices*

      On April 23, 2020, the Sacramento Metropolitan Air Quality Management District (SMAQMD) adopted Greenhouse Gas Thresholds for Sacramento County. This substantial evidenced based document sets SB 32-based local GHG emission targets for 2030 by evaluating the GHG inventory for local emission sectors relative to statewide sector inventories and the state's GHG reduction target of 40% below 1990 levels. Relative to business-as-usual, the document considered the commercial and residential sector emission reductions needed from new development to help achieve the SB 32 goal. To help secure these reductions, best management practices were established for new development.
    - *GHG Bright-line and Efficiency Thresholds*

      SB 32 based local bright-line and operational efficiency thresholds can be established by evaluating local emission sectors in a jurisdiction's GHG inventory relative to statewide sector inventories and the state's GHG reduction target of 40% below 1990 levels. This approach is found in earlier drafts of SMAQMD's SB 32 threshold work and the AEP Climate Change Committee may provide guidance on a similar approach.

As discussed above, SB 32 requires the state to reduce GHG levels by 40 percent below 1990 levels by the year 2030. According to the California Greenhouse Gas Emissions for 2000 to 2017, Trends of Emissions and Other Indicators published by the California Air Resources Board, emissions of GHG statewide in 2017 were 424 million $MMTCO_2e$, which was 7 million MTCO2e below the 2020 GHG target of 431 $MMTCO_2e$ established by AB 32. At the local level, an update of the County's EnergyWise Plan prepared in 2016 revealed that overall GHG emissions in San Luis Obispo County decreased by approximately seven percent between 2006 and 2013, or about one-half of the year 2020 target of reducing greenhouse gas emissions by 15% relative to the 2006 baseline[1]. Therefore, application of the 1,150 $MTCO_2e$ Bright Line Threshold in San Luis Obispo County, together with other local and State-wide efforts to reduce GHG emissions, proved to be an effective approach for achieving the reduction targets set forth by AB32 for the year 2020. It should be noted that the 1,150 $MTCO_2e$ per year Bright Line Threshold was based on the assumption that a project with the potential to emit less than 1,150 $MTCO_2e$ per year would result in impacts that are less than significant and less than cumulatively considerable impact and would be consistent with state and local GHG reduction goals.

Since SB 32 requires the state to reduce GHG levels by 40 percent below 1990 levels by the year 2030, the application of an interim "bright line" SB32-based working threshold that is 40 percent below the 1,150 $MMTCO_2e$ Bright Line threshold (1,150 x 0.6 = 690 $MMTCO_2e$) would be expected to produce comparable GHG reductions "in the spirit of" the targets established by SB32. Therefore, for the purpose of evaluating the significance of GHG emissions for a project after 2020, emissions estimated to be less than 690 $MMTCO_2e$ per year GHG are considered *de minimus* (too trivial or minor to merit consideration), and will have a less than significant impact that is less than cumulatively considerable and consistent with state and local GHG reduction goals.

[1] AB32 and SB32 require GHG emissions to be reduced to 1990 levels by the year 2020. The EnergyWise Plan assumes that the County's 1990 GHG emissions were about 15% below the levels identified in the 2006 baseline inventory.

Discussion

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

The California Emissions Estimator Model (CalEEMod) was used to determine the approximate GHG emissions per square foot associated with construction and operation of an access road, single-family residence, and ADU based on an energy use factors for construction and operation. These emission factors were then multiplied by the total proposed area of disturbance to estimate the project's construction-related and annual operational carbon dioxide equivalent emissions in metric tons (MTCO2e; Table 4).

Table 1 - Projected Project GHG Emissions Without Mitigation

Project Component	Quantity	Emissions Rate (Annual $MTCO_2e/sf$)		Estimated Projected Annual CO_2 Emissions (MT/year)
		Construction[1]	Operation	
Existing accessory Buildings	1,900 sq.ft.	n/a	0.0069	13.1
Existing Crop Production	87.4 acres	n/a	0.000020	76.4
Existing/Baseline GHG Emissions				**89.5**
Agricultural Reservoir	1.75 acres	n/a	0.000020[2]	1.5
Net Change (Increase)				**91**

Notes:

1. Based on the equivalent electricity and natural gas consumption of 18,000 kWhr/household/year.
2. GHG generation associated with crop production based on 6.2 million MTCO2e per year GHG from crop production in California (Source: California Greenhouse Gas Emissions for 2000 to 2018) and 7.3 million acres of harvested crop acreage in California in 2019 (Source: California Department of Food and Agriculture Agricultural Statistics Review 2018-2019

Sources: County of San Luis Obispo Department of Planning and Building, 2020, CalEEMod version 2016.3.2

As shown in Table 1, project-related GHG emissions will be well below the threshold of 690 MTCO2e. Therefore, potential impacts associated with GHG emissions and applicable plans and policies adopted for the purpose of reducing GHG emissions would be less than significant.

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

As discussed in the setting above, the 2017 Climate Change Scoping Plan provides strategies for meeting the mid-term 2030 greenhouse gas reduction target set by SB 32. The 2017 Climate Change Scoping Plan also identifies how the State can substantially advance toward the 2050 greenhouse gas reduction target of Executive Order S-3-05, which consists of reducing greenhouse gas emissions to 80 percent below 1990 levels. The recommendations cover the key sectors, including energy and industry; transportation; natural and working lands; waste management; and water. The recommended measures in the 2017 Scoping Plan are broad policy and regulatory initiatives that will be implemented at the State level and do not relate to the construction and operation of individual projects. Although project construction and operation may be affected by some of the State level regulations and policies that will be implemented, such as the Phase 2 heavy-duty truck greenhouse gas standards proposed to be implemented within the transportation sector, the project would not impede the State developing or implementing the greenhouse gas reduction measures identified in the Scoping Plan. Therefore, the project would not conflict with AB 32 or the 2017 Climate Change Scoping Plan.

Conclusion

No potentially significant impacts to greenhouse gases were identified and therefore no mitigation is required.

Mitigation

No mitigation is required.

Sources

See Exhibit A.

IX. HAZARDS AND HAZARDOUS MATERIALS

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
(a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
(b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
(d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
(e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
(f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
(g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Setting

The project is not located in an area of known hazardous material contamination and is not on a site listed on the "Cortese List" (which is a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5) (SWRCB 2018; California Department of Toxic Substance Control [DTSC] 2018). The project is located within a High Fire Hazard Severity Zone and based on the County's response time map, it will take approximately 15 to 20 minutes to respond to a call regarding fire or life safety. The project is not located within an Airport Review Area and the closest public use airport, Paso Robles Municipal Airport, located approximately 8 linear miles southeast from the proposed reservoir.

Discussion

(a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

The project does not propose the routine use, transport, or disposal of hazardous materials. Therefore, there would be *no impact*.

(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?*

During construction, the proposed project would utilize limited quantities of hazardous substances such as gasoline, diesel fuel, hydraulic fluid, solvents, oils, paints, etc. Handling of these materials has the potential to result in an accidental release. Construction contractors would be required to comply with applicable federal and state environmental and workplace safety laws. Additionally, the construction contractor would be required to implement BMPs for the storage, use, and transportation of hazardous materials during all construction activities. Therefore, impacts would be *less than significant*.

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

The nearest school is Lillian Larsen Elementary, located approximately 1.45 linear miles to the southeast. There are no schools within a quarter mile of the proposed project. Therefore, there would be *no impact*.

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

The project is not located in an area of known hazardous material contamination and is not on a site listed on the "Cortese List" pursuant to Government Code Section 65962.5. Therefore, there would be *no impact*.

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

The project site is not located within an airport land use plan and is not located within two miles of a public use airport. Therefore, there would be *no impact*.

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

The project would not conflict with any regional emergency response or evacuation plan as the existing access roads would be wide enough to accommodate emergency vehicles and the project footprint is small. Construction and operation of the project would not require road closure, and the project would not physically block the onsite residents from evacuating during an emergency. No structures or other obstacles are proposed that would hinder evacuation or emergency response. Therefore, impacts would be *less than significant*.

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

According to Cal Fire, the project site is located in a High Fire Hazard Severity Zone within a State Responsibility Area. With the exception of the construction period, the proposed project would not regularly have employees onsite. Construction would be temporary and would last approximately three to four and a half months. Once construction is completed, employees would be onsite for periodic maintenance. The project would not be accessible to the public and no structures are

proposed. Therefore, impacts related to risk of loss, injury or death involving wildland fires would be *less than significant*.

Conclusion

No significant impacts related to hazards or hazardous materials would occur.

Mitigation

No mitigation is required.

Sources

See Exhibit A.

X. HYDROLOGY AND WATER QUALITY

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
(b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
(c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
(i) Result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(iii)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
(iv)	Impede or redirect flood flows?	☐	☐	☒	☐
(d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
(e)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Setting

The project proposes to utilize an existing irrigation well on the property located immediately adjacent to the east (APN 027-011-010). The project site is located in the Paso Robles Groundwater Basin (PRGWB). The project is located in the Water Planning Area 5 – North County. The topography of the project site is moderately to rolling. Two ephemeral drainages are present on the project parcel connecting to the Salinas River. The proposed ag reservoir is greater than 300 feet from any of the onsite ephemeral creeks.

Soil in and around the project site is considered to be not well drained and, as described in the NRCS Soil Survey, the soil surface is considered to have moderate erodibility. Evaluation of the subsurface as described in Section II – Agriculture and Forestry Resources above indicates that the soils to be disturbed by the proposed project only include Nacimiento-Los Osos complex (9-30% slope). A Soils Engineering Report was prepared for the project by GeoSolutions, Inc (GeoSolutions Inc., October 2019). The primary geotechnical concerns identified by the soils engineering report were the potential for differential settlement occurring between foundations supported on two soil materials having different settlement characteristics, such as native soils and engineered fill. Therefore, all foundations must be founded in equally competent uniform material in accordance with the Soils Engineering Report.

The proposed reservoir would be lined with 40 mil rough textured HDPE geomembrane liner. The liner will be installed per manufacturer's recommendations by a company specializing in liner installation. The HDPE liner would provide protection from leakage into the subsurface. The source of water is a new 4-inch SR 9 DHPE waterline from an existing well and no surface water shall enter the reservoir. A new 4-inch SD 9 HDPE outlet line will be bored to daylight and attached to an existing irrigation system. A 6-inch PVC Pipe Outlet Structure will serve as an emergency overflow and is sized to prevent the reservoir from overtopping.

Based on the quality and conditions of the soil, the potential for liquefaction and/or lateral spreading is low at this site (GeoSolutions Inc., October 2019). A sedimentation and erosion control plan is required for all

construction and grading projects (LUO Sec. 22.52.120) to minimize these impacts. When required, the plan is prepared by a civil engineer to address both temporary and long-term sedimentation and erosion impacts.

Discussion

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

With regards to project impacts on water quality the following conditions apply:

- Approximately 1.75 acres of site disturbance;
- Storm Water Pollution Prevention Plan (SWPPP) is required;
- The project will be subject to standard County requirements for drainage, sedimentation and erosion control for construction and permanent use;
- The project is on a portion of the parcel with high erodibility, and moderately rolling slopes;
- The project parcel is not within a 100-year Flood Hazard designation.
- Although multiple blue line streams are located onsite, the project is more than 300 feet from them;
- Stockpiles will be properly managed during construction to avoid material loss due to erosion.

Implementation of Land Use Ordinance Section 22.52.110 and Section 22.52.120 will help ensure less than significant impacts to water quality standards and surface and ground water quality.

To provide protection from downward migration of stored water within the reservoir, the proposed reservoir would be lined with 40 mil rough textured HDPE geomembrane liner. The liner will be installed per manufacturer's recommendations by a company specializing in liner installation. The HDPE liner would provide protection from leakage into the subsurface; therefore, water quality related associated with subsurface leakage to groundwater would be less than significant.

The source of water is a new 4-inch SR 9 DHPE waterline from an existing well and no surface water shall enter the reservoir. A new 4-inch SD 9 HDPE outlet line will be bored to daylight and attached to an existing irrigation system. A 6-inch PVC Pipe Outlet Structure will serve as an emergency overflow and is sized to prevent the reservoir from overtopping.

The proposed project would not result in any wastewater discharge. Stormwater would be diverted around the reservoirs and implementation of the project would not substantially change the volume or velocity of runoff leaving any point of the site or result in a significant increase in impervious surface area.

Existing regulations and/or required plans will adequately address surface water quality impacts during construction and permanent use of the project. The applicant will be required to submit a stormwater control plan based on the requirements set forth in the County of San Luis Obispo Post Construction Stormwater Requirements Handbook. Therefore, impacts to surface or ground water quality are considered *less than significant*.

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

The project is located within a groundwater basin designated as level of Severity III per the County's 2016 Resources Summary Report. The project is not within an area of severe decline by the Sustainable Groundwater Management Act. Apart from the initial filling of the agricultural reservoir and gradual evaporation loss, the project would not increase water demand, deplete

groundwater supplies, or interfere substantially with groundwater recharge; therefore, the project would not interfere with sustainable management of the groundwater basin. Potential impacts associated with groundwater supplies would *be less than significant.*

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

(ci) Result in substantial erosion or siltation on- or off-site?

The soil surface is considered to have moderate erodibility. The proposed project will be required to provide an erosion control plan, consistent with County standards and is not expected to result in any substantial erosion or siltation on or off site. Therefore, the impact is considered *less than significant.*

(cii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

The proposed project will be required to submit a drainage plan, consistent with County standards. The project is not expected to result in substantial increases to the rate or amount of surface runoff which could result in flooding on or off site. Therefore, the impact is considered *less than significant.*

(ciii) 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?

The proposed project shall submit a drainage plan, consistent with County standards. Therefore, it is not expected that the project would result in substantial increases to the rate or amount of surface runoff which could result in flooding on or off site. The grading and agricultural reservoir site would be outside of any 100-year flood hazard area. Therefore, impacts would be *less than significant.*

(civ) Impede or redirect flood flows?

The proposed ag reservoir site is outside of the 100-year flood hazard area and the required drainage plan shall be designed to keep flood flows on site or keep with existing historic flows. Therefore, the project is not expected to impede or redirect flood flows. Impacts are expected to be *less than significant*.

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

The project does not fall within a flood hazard, tsunami, or seiche zone. *No impacts* are anticipated.

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

The project will not conflict or obstruct implementation of a water quality control plan or sustainable management plan. Impacts will be *less than significant.*

Conclusion

The applicant would be required to prepare a drainage plan and sedimentation and erosion control plan in accordance with the County of San Luis Obispo Land Use Ordinance (LUO Section 22.52.120). Compliance with these existing regulations would ensure potential impacts related to drainage, sedimentation, and erosion would be less than significant. Compliance with existing regulations and/or required plans would adequately address the potential for surface water quality impacts during construction and permanent use of the project. The project would result in negligible water level drawdown at neighboring properties due to increased pumping activities. Potential impacts related to water level drawdown would be less than significant.

This project will require connection to an existing private well. This project would not affect, or exceed the capacity of existing facilities or community water service provider. The project is not within the 100-year flood zone and would not increase the risk of flooding or inundation. Therefore, potential impacts related to water service providers and flooding would be *less than significant.*

Mitigation

No mitigation required.

Sources

See Exhibit A.

XI. LAND USE AND PLANNING

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Physically divide an established community?	☐	☐	☐	☒
(b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

Setting

The proposed agricultural reservoir is located in an area zoned as Agriculture by the County of San Luis Obispo. The project sites are surrounded by, grazing land, single-family residences, and Camp Roberts California National Guard. The proposed project was reviewed for consistency with policy and/or regulatory documents relating to the environment and appropriate land use (e.g., Coastal County Land Use Ordinance, North County Area Plan, etc.).

Discussion

(a) Physically divide an established community?

The proposed project is located on an existing parcel and would not involve any components that would physically divide the rural community. The project would utilize the existing circulation system and onsite roads for access and would not require the construction of offsite infrastructure. Therefore, there would be *no impact*.

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

The project site is located in areas surrounded by agricultural operations (vineyards and grazing) and military training land. The project site is zoned as Agriculture by the County of San Luis Obispo which are a compatible use per Table 2-2 Allowable Land Use Table contained in Section 22.06.030 LUO. The project was found to be consistent with standards and policies set forth in the County General Plan, the North County Area Plan, the SLOAPCD Clean Air Plan, and other land use policies for this area. The project would be required to be consistent with standards set forth by County Fire/CAL FIRE and the Public Works Department. Therefore, impacts related to inconsistency with land use and policies adopted to address environmental effects would be *less than significant.*

Conclusion

No significant land use or planning impacts would occur.

Mitigation

None beyond County ordinance needed.

Sources

See Exhibit A.

XII. MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	☐	☐	☒	☐

Setting

The County Land Use Ordinance provides regulations for development in delineated Energy and Extractive Resource Areas (EX) and Extractive Resource Areas (EX1). The proposed project is not located within an EX or EX1 designation. Based on the California Geological Survey (CGS) Information Warehouse for Mineral Land Classification, the project site is located within an Aggregate Materials study area which covers the majority of the County. There are no mines on the project site.

Discussion

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

Result in the loss of availability of a locally- important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No mining activity has occurred on the project site. There are no known mineral resources on the project site. Based on the California Geological Survey (CGS) Information Warehouse for Mineral Land Classification, the project site is not located within any study area that have identified mineral resources and are not located in close proximity to an active mine (CGS 2018). In addition, based on Chapter 6 of the County of San Luis Obispo General Plan Conservation and Open Space Element – Mineral Resources, the project site is not located within an extractive resource area or an energy and extractive resource area. Therefore, impacts related to preclusion of future extraction of valuable mineral resources would be *less than significant.*

Conclusion

Due to the lack of valuable minerals in the area, and the lack of a mineral resource recovery designation, the proposed project would not significantly hinder future extraction or availability of valuable mineral resources.

Mitigation

None needed.

Sources

See Exhibit A.

XIII. NOISE

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
(a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
(b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
(c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Setting

The existing ambient noise environment is characterized by light traffic on Allende Road, as well as agricultural equipment from surrounding properties. Noise-sensitive land uses typically include residences, schools, nursing homes, and parks. The nearest existing noise-sensitive offsite land use is a residence located approximately 0.3 miles southeast of the proposed ag reservoir. The project would not be located within an Airport Review Area and the closest active landing strip, is McMillan Field, a private landing strip, is located approximately 4 miles southwest of the proposed Ag Reservoir.

Discussion

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

The proposed project would not introduce noise-generating equipment for operation of the proposed project and therefore would not generate a permanent increase in ambient noise levels. However, project construction activities would generate short-term construction noise. These activities would be limited to the daytime hours of 7:00 a.m. to 9:00 p.m. Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturday or Sunday, in accordance with County construction noise standards (County Code Section 22.10.120.A) and would be located approximately 0.4 miles from any offsite receptor (single family residence). Construction-related noise would not be substantially different than existing farm equipment uses and would attenuate considerably before reaching offsite receptors. Therefore, impacts related to increases in ambient noise levels would be *less than significant*.

(b) *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?*

Operation of the proposed project would not result in groundborne vibration. No construction equipment or methods are proposed that would generate substantial ground vibration (blasting, pile driving, demolition, etc.). Therefore, impacts related to temporary or permanent groundborne vibration would be *less than significant*.

(c) *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 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?*

The project site is not located within an airport land use plan and is not located within two miles of a public use airport. Therefore, there would be *no impact.*

Conclusion

No significant long-term change in noise levels would occur. Short-term construction related noise would be limited in nature and duration and would only occur during appropriate daytime hours. Therefore, potential noise impacts would be *less than significant*.

Mitigation

No mitigation measures beyond County ordinance are required.

Sources

See Exhibit A.

XIV. POPULATION AND HOUSING

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

Setting

The proposed project is located within the unincorporated area of San Luis Obispo County, just west of the community of San Miguel. The site is located within the Salinas River sub-area of the North County planning

area. The project site is a large agricultural parcel surrounded by similar agricultural and sparse residential use.

In its efforts to provide for affordable housing, the County currently administers the Home Investment Partnerships Program (HOME) and the Community Development Block Grant (CDBG) Program, which provides limited financing to projects relating to affordable housing throughout the county. The County's Inclusionary Housing Ordinance requires provision of new affordable housing in conjunction with both residential and nonresidential development and subdivisions.

Discussion

(a-b) *Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The proposed project proposes construction of an agricultural reservoir to store water to serve existing agricultural uses (vineyard). The proposed project does not include any residential uses or structures for human habitation. The project would not require additional employees beyond the existing amount used for the existing agricultural operation. The project would not result in a need for new housing and would not displace existing housing. The project does not propose new roads or infrastructure to undeveloped or underdeveloped areas that would indirectly result in population growth. Therefore, there would be *no impacts.*

Conclusion

No population and housing impacts would occur.

Mitigation

None needed.

Sources

See Exhibit A.

XV. PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☒	☐
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☒	☐

Setting

Police: County Sheriff Location: Templeton (Approximately 13 miles south on Hwy 101)

Fire: Cal Fire (formerly CDF) Hazard Severity: High Response Time: 15 to 20 minutes

Location: #80 Los Robles Camp Approximately 8 miles to the southeast

School District: Paso Robles Joint Unified School District.

Discussion

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

Fire protection? Police protection?

The proposed project proposes construction one (1) agricultural reservoir to serve the existing agricultural use and would not generate substantial long-term increases in demand for fire or police protection. The proposed project, along with other projects in the area, would result in a cumulative effect on police and fire protection services. The project's direct and cumulative impacts would be within the general assumptions of allowed use for the subject property that was used to estimate the public facility fees in place. Therefore, impacts would be *less than significant.*

Schools? Parks?
The proposed project would not result in the need for new housing and would not result in population growth. Therefore, there would be *no impacts* related to school or park facilities.

Other public facilities?
The proposed project would not generate a substantial long-term increase in demand for roads, solid waste, or other public services or utilities. Electrical demands of the project would be negligible and electrical service is available immediately adjacent to the project site. The proposed project site would be accessed by existing local and farm roads and would not generate substantial long-term operational trips. Cut and fill material would be balanced onsite and the project would not generate substantial amounts of solid waste requiring disposal. Therefore, potential impacts on public services or utilities would be *less than significant.*

Conclusion

No significant impacts to public services or utilities would occur.

Mitigation

No mitigation is required.

Sources

See Exhibit A.

XVI. RECREATION

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
(b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Setting

The project would be located within privately owned operational agricultural parcel that primarily supports existing vineyard.

Discussion

(a-b) 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?

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?

Construction and operation of the proposed reservoir would not have any adverse effects on existing or planned recreational opportunities in the County. The proposed project would not create a need for additional park, natural area, and/or recreational resources. The proposed project would be located on a private agricultural zoned parcel and would not induce population growth that would require increased recreational services and facilities. Therefore, there would be *no impacts*.

Conclusion

No significant impacts to recreational resources would occur.

Mitigation

No mitigation is required.

Sources

See Exhibit A.

XVII. TRANSPORTATION

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

Setting

The County has established the acceptable Level of Service on roads for this rural area as "C" or better. The existing road network in the area including the project's access street—Highway 101—are operating at acceptable levels. Based on existing road speeds and configuration (vertical and horizontal road curves), sight distance is considered acceptable.

The County Department of Public Works maintains updated traffic count data for all County-maintained roadways. In addition, Traffic Circulation Studies have been conducted within several community areas using traffic models to reasonably simulate current traffic flow patterns and forecast future travel demands and traffic flow patterns. These community Traffic Circulation Studies include the South County Circulation Study, Los Osos Circulation Study, Templeton Circulation Study, San Miguel Circulation Study, Avila Circulation Study, and North Coast Circulation Study. The California Department of Transportation (Caltrans) maintains annual traffic data on state highways and interchanges within the county.

In 2013, Senate Bill 743 was signed into law with the intent to "more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions" and required the Governor's Office of Planning and Research (OPR) to identify new metrics for identifying and mitigating transportation impacts within CEQA. As a result, in December 2018, the California Natural Resources Agency certified and adopted updates to the State CEQA Guidelines. The revisions included new requirements related to the implementation of Senate Bill 743 and identified vehicle miles traveled (VMT) per capita, VMT per employee, and net VMT as new metrics for transportation analysis under CEQA (as detailed in Section 15064.3 [b]). Beginning July 1, 2020, the newly adopted VMT criteria for determining significance of transportation impacts must be implemented statewide.

The San Luis Obispo Council of Governments (SLOCOG) holds several key roles in transportation planning within the county. As the Regional Transportation Planning Agency (RTPA), SLOCOG is responsible for conducting a comprehensive, coordinated transportation program, preparation of a Regional Transportation Plan (RTP), programming of state funds for transportation projects, and the administration and allocation of transportation development act funds required by state statutes. As the Metropolitan Planning Organization (MPO), SLOCOG is also responsible for all transportation planning and programming activities required under federal law. This includes development of long-range transportation plans and funding programs, and the approval of transportation projects using federal funds.

The 2019 RTP, adopted June 5, 2019, is a long-term blueprint of San Luis Obispo County's transportation system. The plan identifies and analyzes transportation needs of the region and creates a framework for project priorities. SLOCOG represents and works with the County of San Luis Obispo as well as the Cities within the county in facilitating the development of the RTP.

The County Department of Public Works establishes bicycle paths and lanes in coordination with the RTP, which outlines how the region can establish an extensive bikeway network. County bikeway facilities are funded by state grants, local general funds, and developer contributions. The RTP also establishes goals and recommendations to develop, promote, and invest in the public transit systems, rail systems, air services, harbor improvements, and commodity movements within the county in order to meet the needs of transit-dependent individuals and encourage the increasing use of alternative modes by all travelers that choose public transportation. Local transit systems are presently in operation in the cities of Morro Bay and San Luis Obispo, and South County services are offered to Grover Beach, Arroyo Grande, Pismo Beach, and Oceano. Dial-a-ride systems provide intra-community transit in Morro Bay, Atascadero, and Los Osos. Inter-urban systems operate between the City of San Luis Obispo and South County, Los Osos, and the North Coast.

The County's Framework for Planning (Inland), includes the Land Use and Circulation Elements of the County's General Plan. The Framework establishes goals and strategies to meet pedestrian circulation needs by providing usable and attractive sidewalks, pathways, and trails to establish maximum access and connectivity between land use designations.

Discussion

(a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The proposed project includes construction of an agricultural reservoir for water storage to serve an existing agricultural operation. Short-term construction-related trips would be minimal, and area roadways are operating at acceptable levels and would be able to accommodate construction-related traffic. Long-term maintenance and operational trips would not substantially differ from existing onsite vineyard operations. As a result, the proposed project would have an insignificant long-term impact on existing road service or traffic safety levels. The project does not conflict with adopted policies, plans and programs related to transportation, would not affect air traffic patterns or policies related to public transit, bicycle, or pedestrian facilities. Therefore, impacts would be *less than significant.*

(b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Based on the nature and location of the project, the project would not generate a significant increase in construction-related or operational traffic trips or vehicle miles traveled. The project would not substantially change existing land uses and would not result in the need for additional new or expanded transportation facilities and is below the trip threshold identified by the State and would not be considered significant. The project would be subject to standard development impact fees to offset the relative impacts on surrounding roadways. Therefore, potential impacts would be less than significant.

(c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The project would not result in any changes to the access road or alterations to the existing driveway approach. Therefore, the project would not substantially increase hazards and would have a *less than significant impact.*

(d) Result in inadequate emergency access?

The project site's access roads are approximately 15 feet wide on a nearly level surface which is ample room to accommodate farm equipment, construction vehicles, and emergency vehicles. The project site would have the highest risk of emergencies occurring construction, which would be temporary. During operation, the likelihood of an emergency incident occurring is low due to a lack of structures and infrequency of persons at the project. Therefore, impacts related to emergency access would be *less than significant*.

Conclusion

No significant traffic impacts would occur.

Mitigation

None needed.

Sources

See Exhibit A.

XVIII. TRIBAL CULTURAL RESOURCES

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

Setting

Approved in 2014, Assembly Bill 52 (AB 52) added tribal cultural resources to the categories of resources that must be evaluated under CEQA. Tribal cultural resources are defined as either of the following:

1) Sites, features, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

   a. Included or determined to be eligible for inclusion in the California Register of Historical Resources; or

   b. Included in a local register of historical resources as defined in subdivision (k) of California Public Resources Code Section 5020.1.

2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of California Public Resources Code Section 5024.1. In applying these criteria for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American Tribe.

AB 52 consultation letters were sent to four tribes on May 24, 2021: Northern Chumash Tribal Council, Salinan Tribe of San Luis Obispo and Monterey Counties, Xolon Salinan Tribe, and yak tityu tityu yak tiłhini. A response was submitted by the Xolon Salinan Tribe on May 27, 2021, requesting to see any records search and archeological report prepared for the project. No significant sensitive resources were identified.

As noted in Section V. Cultural Resources, the project is located in an area historically occupied by the Obispeño Chumash and Salinan.

Discussion

(a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

(a-i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?

No resources have been found on site or within the project scope which would be considered a "historical resource" according to Public Resources Code section 5020.1(k). Therefore, impacts would be *less than significant*.

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

Per AB 52, notices regarding the opportunity for tribal consultation were sent on May 24, 2021, to four Native American tribes affiliated with the project area (Northern Salinan, Xolon Salinan, Yak Tityu Tityu Northern Chumash, and the Northern Chumash Tribal Council). A response was submitted by the Xolon Salinan Tribe on May 27, 2021, requesting to see any records search and archaeological report prepared for the project. No significant sensitive resources were identified.

In the unlikely event resources are uncovered during grading activities, implementation of LUO Section 22.10.040 (Archaeological Resources) would be required:

In the event archaeological resources are unearthed or discovered during any construction activities, the following standards apply:

A. Construction activities shall cease, and the Department shall be notified so that the extent and location of discovered materials may be recorded by a qualified archaeologist, and disposition of artifacts may be accomplished in accordance with state and federal law.

B. In the event archaeological resources are found to include human remains, or in any other case when human remains are discovered during construction, the County

Coroner shall be notified in addition to the Department so proper disposition may be accomplished.

There are no known tribal cultural resources within the project area. Therefore, impacts would be *less than significant*.

Conclusion

No significant impacts on tribal cultural resources would occur. In the event of an unanticipated discovery of tribal resources during earth-moving activities, compliance with the LUO would ensure potential impacts would be reduced to less than significant.

Mitigation

No mitigation is required.

Sources

See Exhibit A.

XIX. UTILITIES AND SERVICE SYSTEMS

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:					
(a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒
(b)	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
(c)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(d)	Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
(e)	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Setting

The proposed project is an agricultural reservoir requiring one-time fill of water. The use and refilling of the reservoir after the initial fill would be relatively similar to the current irrigation and associated well use. The project is located in an agricultural area and will not result in a permanent use or development, therefore not requiring water or sewer connections. Once grading activities are complete, the site will maintain existing agricultural and residential operations.

Discussion

(a) *Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

The proposed project would not result in the necessity of new or expanded water, wastewater, electric, natural gas, or telecommunications connections or facilities. Power is currently provided on site through an existing PG&E connection and water would be supplied from an existing well on site. Since no expansion or relocation of facilities would be required for construction or operation of the proposed project, *no impacts* would occur.

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

The project would be subject to the County's Title 19 (Building and Construction Ordinance, Sec. 19.20.238), states that no grading or building permit shall be issued until either the water purveyor provides a written statement that potable water service will be provided (community systems), or an on-site well is installed, tested and certified to meet minimum capacity requirements and Health Department approval.

The project includes major grading to establish an agricultural reservoir. Water trucks are proposed to prevent airborne dust from leaving the site during grading activities. Reclaimed water will be used whenever possible. Once grading and the initial fill of the reservoir is complete, the water usage would relatively similar when compared to the historic usage serving the existing vineyard. Since water usage would be consistent with historical use, the impacts from having insufficient water supplies available to serve the project and reasonably foreseeable future development would be *less than significant*.

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

The proposed project would not result in the production of any wastewater, and all wastewater produced during construction would be collected in portable restroom facilities that would be serviced offsite. The project site is not served by a wastewater treatment provider, and the proposed project would have *no impacts* on capacity of a wastewater treatment provider's facilities.

(d) *Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

The proposed project is an agricultural reservoir which is not expected to generate solid waste and will likely not result in the impairment of solid waste reduction goals. Operation of the proposed project would not result in the production of solid waste and therefore would comply with all federal, state, and local management and reduction statutes and regulations related to solid waste. Any waste generated from the construction of the proposed facility would be removed by the contractor and disposed of. Therefore, impacts would be *less than significant.*

(e) *Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

The project is required to abide by federal, state, and local management reduction statutes and regulations related to solid waste. Therefore, the project will comply with all statutes and regulations related to solid waste, and impacts will be *less than significant.*

Conclusion

The proposed project would not result in the need for expanded utility and service systems and is not expected to create any solid waste in excess of state and local standards. Portable restrooms would be provided during construction and handled by the portable restroom provider. Solid waste may be generated during construction of the facility and would be removed from the site by the project contractor. No significant impacts related to utilities and service systems would occur, and therefore mitigation is not required.

Mitigation

There is no evidence that measures above what will already be required by ordinance or codes and geologist recommendations are needed.

Sources

See Exhibit A.

XX. WILDFIRE

		Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:					
(a)	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
(b)	Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
(c)	Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
(d)	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐

Setting

The proposed project site is located in a High Fire Hazard Severity Zone and has an average annual windspeed of approximately 4.5 to 5.5 miles per hour (mph) (WeatherSpark 2020). Existing conditions that may exacerbate fire risk include the moderately rolling topography in some areas and the moderate average windspeed.

The County of San Luis Obispo Safety Element establishes goals, policies, and programs to reduce the threat to life, structures, and the environment caused by fire. Policy S-13 identifies that new development should be carefully located, with special attention given to fuel management in higher fire risk areas, and that new development in fire hazard areas should be configured to minimize the potential for added danger.

The California Fire Code provides minimum standards for many aspects of fire prevention and suppression activities. These standards include provisions for emergency vehicle access, water supply, fire protection systems, and the use of fire-resistant building materials.

Discussion

(a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

The project would not conflict with any regional emergency response or evacuation plan as no structures or other obstacles are proposed that would hinder evacuation or emergency response. Therefore, there would be *no impacts*.

(b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

The proposed project site is located in an area of moderate wind, with an average annual wind speed of approximately 4.5 to 5.5 mph (WeatherSpark 2020). The project site has abundant fuel, especially during the summer months when vegetation is drier, and has moderately rolling topography, all of which exacerbate fire risk. All of these conditions have resulted in the project sites being classified in a High Fire Hazard Severity Zone. The proposed project would have the highest fire risk during construction as construction vehicles have the ability to spark wildfires when operating machinery around dry vegetation. This risk would be temporary however, and there would be no long-term fire risk from the implementation of the project. Therefore, impacts would be *less than significant.*

(c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

The proposed project sites already have access to all utilities required for their operation and therefore would not require construction of other utilities that could exacerbate fire risk. Furthermore, existing farm roads will be used for access as opposed to construction of new roads for access. Impacts would be *less than significant*.

(d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

As stated earlier, the project would not result in the construction of structures and employees would rarely be onsite. Therefore, there would be a *less than significant* impact to people and structures in regard to flooding and landslides from post-fire slope instability.

Conclusion

No significant wildfire impacts were identified and therefore project impacts would be less than significant.

Mitigation

No mitigation is required.

Sources

See Exhibit A.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

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

Discussion

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

As discussed in each resource section above, the project has the potential to impact onsite special status plant and animal species, as well as nonnative annual grassland, coastal sage scrub, and ruderal habitats. Implementation of Mitigation Measures BR-1 through BR-6 would reduce impacts to sensitive species and habitats to less than significant. Therefore, the project would not result in significant impacts to biological resources and would not 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.

Therefore, the project impacts would be *less than significant with mitigation*.

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

Potential cumulative impacts of the proposed project have been analyzed within the discussion of each environmental resource area above. Cumulative impacts associated with the proposed project would be *less than significant with mitigation*.

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

Environmental impacts that may have an adverse effect on human beings, either directly or indirectly, are analyzed in each environmental resource section above. In addition, implementation of mitigation measures included in Exhibit B – Mitigation Summary Table would further reduce potential adverse effects on human beings; therefore, impacts would be *less than significant with mitigation*.

Conclusion

With the implementation of the mitigation measures listed in Exhibit B – Mitigation Summary Table, impacts would be reduced to *less than significant with mitigation*.

Exhibit A - Initial Study References and Agency Contacts

The County Planning Department has contacted various agencies for their comments on the proposed project. With respect to the subject application, the following have been contacted (marked with an ☒) and when a response was made, it is either attached or in the application file:

Contacted	Agency	Response
☐	County Public Works Department	**Not Applicable**
☐	County Environmental Health Services	**Not Applicable**
☒	County Agricultural Commissioner's Office	**None**
☐	County Airport Manager	**Not Applicable**
☐	Airport Land Use Commission	**Not Applicable**
☒	Air Pollution Control District	**None**
☐	County Sheriff's Department	**Not Applicable**
☒	Regional Water Quality Control Board	**None**
☐	CA Coastal Commission	**Not Applicable**
☒	CA Department of Fish and Wildlife	**None**
☐	CA Department of Forestry (Cal Fire)	**Not Applicable**
☐	CA Department of Transportation	**Not Applicable**
☐	Community Services District	**Not Applicable**
☐	Other _____	**Not Applicable**
☐	Other _____	**Not Applicable**

** "No comment" or "No concerns"-type responses are usually not attached

The following checked ☒") reference materials have been used in the environmental review for the proposed project and are hereby incorporated by reference into the Initial Study. The following information is available at the County Planning and Building Department.

- ☒ Project File for the Subject Application

County Documents

- ☒ Coastal Plan Policies
- ☒ Framework for Planning (Coastal/**Inland**)
- ☒ General Plan (**Inland**/Coastal), includes all maps/elements; more pertinent elements:
  - ☒ Agriculture Element
  - ☒ Conservation & Open Space Element
  - ☐ Economic Element
  - ☐ Housing Element
  - ☒ Noise Element
  - ☒ Parks & Recreation Element/Project List
  - ☒ Safety Element
- ☒ Land Use Ordinance (Coastal)
- ☒ Building and Construction Ordinance
- ☐ Public Facilities Fee Ordinance
- ☐ Real Property Division Ordinance
- ☐ Affordable Housing Fund
- ☐ Airport Land Use Plan
- ☒ Energy Wise Plan
- ☐ Estero Area Plan
- ☐ Design Plan
- ☐ Specific Plan
- ☒ Annual Resource Summary Report
- ☐ Circulation Study

Other Documents

- ☒ Clean Air Plan/APCD Handbook
- ☐ Regional Transportation Plan
- ☒ Uniform Fire Code
- ☒ Water Quality Control Plan (Central Coast Basin – Region 3)
- ☒ Archaeological Resources Map
- ☒ Area of Critical Concerns Map
- ☒ Special Biological Importance Map
- ☒ CA Natural Species Diversity Database
- ☒ Fire Hazard Severity Map
- ☒ Flood Hazard Maps
- ☒ Natural Resources Conservation Service Soil Survey for SLO County
- ☒ GIS mapping layers (e.g., habitat, streams, contours, etc.)
- ☐ Other

In addition, the following project-specific information and/or reference materials have been considered as a part of the Initial Study:

Kevin Merk Associates, LLC (KMA), Biological Report prepared for Vino Farms Agricultural Reservoir. February 2021.

Kevin Merk Associates LLC (KMA). San Joaquin Kit Fox Habitat Evaluation for the West San Miguel Irrigation and Frost Protection Reservoir Project (APN 027-011-010).

Monsoon Consultants, March 4, 2020, Hydrogeologic Analysis for the Agricultural Irrigation and Frost Protection Reservoir to be Constructed at Vino Farms Rancho de Los Suenos Vineyard.

Monsoon Consultants, March 4, 2020, Grading & Erosion Control Plans West San Miguel Irrigation & Frost Protection Reservoir, stamped by Blaine T. Reely, P.E.

GSI Water Solutions Inc., March 3, 2021. Review of Rancho de Suenos Agricultural Storage Pond Hydrogeologic Analysis.

GeoSolutions Inc., October 18, 2019. Soils Engineering Report prepared for Vino Farms, Inc.

California Department of Conservation (DOC). 2015. Fault Activity Map of California (2021) Available at <http://maps.conservation.ca.gov/cgs/fam/>.

California Department of Conservation (DOC). 2018. CGS Information Warehouse: Regulatory Maps. Available at <https://maps.conservation.ca.gov/cgs/informationwarehouse/>.

California Department of Conservation (DOC). 2016. California Important Farmland Finder. Available at < https://maps.conservation.ca.gov/DLRP/CIFF/>.

California Department of Conservation (DOC). 2016. San Luis Obispo County Important Farmland 2016. Available at <ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/slo16.pdf>.

Office of Energy Efficiency and Renewable Energy. 2012. California – Annual Average Wind Speed at 30m. Available at: <https://windexchange.energy.gov/files/u/visualization/pdf/ca_30m.pdf>.

San Luis Obispo County Air Pollution Control District (SLOAPCD). 2019. SLO APCD NOA Screening Buffers. Available at <https://www.google.com/maps/d/viewer?mid=1YAKjBzVkwi1bZ4rQ1p6b2OMyvIM&ll=35.66407615333322%2C-120.44668446503107&z=11>.

State Water Resources Control Board (SWRCB). 2015. GeoTracker. Available at <http://geotracker.waterboards.ca.gov/>.

Exhibit B - Mitigation Summary

The applicant has agreed to incorporate the following measures into the project. These measures become a part of the project description and therefore become a part of the record of action upon which the environmental determination is based. All development activity must occur in strict compliance with the following mitigation measures. These measures shall be perpetual and run with the land. These measures are binding on all successors in interest of the subject property.

BIOLOGICAL RESOURCES

BR-1 **Environmental Awareness Training.** Prior to major construction activities (e.g., site mobilization, clearing, grubbing, preparation for installing new facilities, etc.), an environmental awareness training shall be presented to all project personnel by a qualified biologist prior to the start of any project activities. The training shall include color photographs and a description of the ecology of all special-status species known or determined to have potential to occur, as well as other sensitive resources requiring avoidance near project impact areas. The training shall also include a description of protection measures required by the project's discretionary permits, an overview of the federal Endangered Species Act, the California Endangered Species Act, and implications of noncompliance with these regulations, as well as an overview of the required avoidance and minimization measures. A sign-in sheet with the name and signature of the qualified biologist who presented the training and the names and signatures of the trainees will be kept and provided to the County. If new project personnel join the project after the initial training period, they will receive the environmental awareness training from a designated crew member on site before beginning work. A qualified biologist will provide refresher trainings during site visits or other monitoring events.

BR-2 **San Joaquin Kit Fox (*Vulpes macrotis multica*; SJKF) Habitat Mitigation Alternatives.** Prior to issuance of grading and/or construction permits, the applicant shall submit evidence to the County that states that one or a combination of the following three San Joaquin kit fox (SJKF) mitigation measures has been implemented:

a. Provide for the protection in perpetuity, through acquisition of fee or a conservation easement of 3.5 acres of suitable habitat in the kit fox corridor area (e.g., within the San Luis Obispo County kit fox habitat area), either on site or off site, and provide for a non-wasting endowment to provide for management and monitoring of the property in perpetuity. Lands to be conserved shall be subject to the review and approval of the CDFW and the County.

   This mitigation alternative (a.) requires that all aspects if this program must be in place before County permit issuance or initiation of any ground disturbing activities.

b. Deposit funds into an approved in-lieu fee program, which would provide for the protection in perpetuity of suitable habitat in the kit fox corridor area within San Luis Obispo County, and provide for a non-wasting endowment for management and monitoring of the property in perpetuity.

   Mitigation alternative (b.) can be completed by providing funds to The Nature Conservancy (TNC) pursuant to the Voluntary Fee-Based Compensatory Mitigation Program (Program). The Program was established in agreement between CDFW and TNC to preserve SJKF habitat, and to provide a voluntary mitigation alternative to project proponents who must

mitigate the impacts of projects in accordance with the CEQA. This fee is calculated based on the current cost-per-unit of $2,500 per acre of mitigation, which is scheduled to be adjusted to address the increasing cost of property in San Luis Obispo County; the actual cost may increase depending on the timing of payment. This fee must be paid after CDFW provides written notification about mitigation options but prior to County permit issuance and initiation of any ground disturbing activities. The fee, payable to "The Nature Conservancy", would total $8,750 based on $2,500 per acre (1.75 acres impacted * 2 *$2,500 per acre).

c. Purchase 7 (1.75 acres * 2) credits in a CDFW-approved conservation bank, which would provide for the protection in perpetuity of suitable habitat within the kit fox corridor area and provide for a non-wasting endowment for management and monitoring of the property in perpetuity.

Mitigation alternative (c.) can be completed by purchasing credits from the Palo Prieto Conservation Bank. The Palo Prieto Conservation Bank was established to preserve SJKF habitat, and to provide a voluntary mitigation alternative to project proponents who must mitigate the impacts of projects in accordance with CEQA. The cost for purchasing credits is payable to the owners of The Palo Prieto Conservation Bank and would total $8,750 (1.75 acres * 2* $2,500). This fee is calculated based on the current cost-per-credit of $2,500 per acre of mitigation. The fee is established by the conservation bank owner and may change at any time. The actual cost may increase depending on the timing of payment. Purchase of credits must be completed prior to County permit issuance and initiation of any ground disturbing activities.

BR-3 San Joaquin Kit Fox Protection Measures.

1. **SJKF Protection Measures on Plans.** All SJKF protection measures required before construction (prior to any project activities) and during construction shall be included as a note on all project plans.

b. Prior to issuance of grading and/or construction permits, the applicant shall clearly delineate the following as a note on the project plans: "Speed signs of 25 mph (or lower) shall be posted for all construction traffic to minimize the probability of road mortality of the San Joaquin kit fox". Speed limit signs shall be installed on the project site within 30 days prior to initiation of site disturbance and/or construction.

3. **Pre-construction Survey for SJKF.** Prior to issuance of grading and/or construction permits, the applicant shall provide evidence that they have retained a qualified biologist acceptable to the County. The retained biologist shall perform the following monitoring activities:

b. A qualified biologist shall complete a pre-construction survey for SJKF no less than 14 days and no more than 30 days prior to the start of initial project activities to ensure SJKF is not present within all proposed work areas and at least a 250-foot buffer around work areas per USFWS Standard Recommendations (2011). The biologist will survey for signs of SJKF and known or potential SJKF dens. The result of the survey shall be submitted to the County within 5 days of the survey and prior to start of initial project activities. The submittal shall include the date the survey was conducted, survey method, and survey results, including a map of the location of any SJKF signs,

and/or known or potential SJKF dens, if present. If no SJKF signs, potential or known SJKF dens are identified, then the SJKF Standard Protection Avoidance and Protection Measure shall be applied.

i. If the qualified biologist identifies potential SJKF den(s), the den(s) will be monitored for 3 consecutive nights with an infra-red camera, prior to any project activities, to determine if the den is being used by SJKF. If no SJKF activity is observed during the 3 consecutive nights of camera placement then project work can begin with the Standard SJKF Avoidance and Protection Measures and the SJKF Protection Measures if SJKF are observed.

ii. If a known den is identified within 250-feet of any proposed project work areas, no work may start in that area.

iii. If 30 days lapse between different phases of project activities (e.g., vegetation trimming and the start of grading), where no or minimal work activity occurs, the SJKF survey shall be updated.

BR-4 **Standard SJKF Avoidance and Protection Measures.** Throughout the life of the project,

15. If a SJKF is discovered at any time to be occupying an area within the project boundaries, all work must stop. The County will be notified, and they will consult with other agencies as needed.
16. A maximum of 25 mph speed limit shall be required at the project site during project activities. Speed limit signs shall be installed on the project site prior to start of all work.
17. All project activities shall cease at dusk and not start before dawn. This includes driving on the site for security purposes.
18. To prevent entrapment of SJKF and other special-status wildlife, all excavations, steep-walled holes or trenches greater than two feet deep shall be completely covered at the end of each work day by plywood or similar materials, or one or more escape ramps constructed of earth fill or wooden planks shall be installed a minimum of every 200 feet. All escape ramps shall be angled such that wildlife can feasibly use it to climb out of an area. All excavations, holes, and trenches shall be inspected daily for SJKF or other special-status species and immediately prior to being covered or filled. If a SJKF is entrapped, CDFW, USFWS, and the County will be contacted immediately to document the incident and advise on removal of the entrapped SJKF.
19. All pipes, culverts, or similar structures with a diameter of 4 inches or greater, stored overnight at the project site shall be thoroughly inspected for sheltering SJKF before burying, capping, or moving. All exposed openings of pipes, culverts, or similar structures shall be capped or temporarily sealed prior to the end of each working day. No pipes, culverts, similar structures, or materials stored on site shall be moved if there is a SJKF present within or under the material. A 50-foot exclusion buffer will be established around the location of the SJKF until it leaves. The SJKF shall be allowed to leave on its own before the material is moved.
20. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in animal-proof closed containers only and regularly removed from the site.

21. No deliberate feeding of wildlife shall be allowed.
22. Water sources shall be managed to ensure no leaks occur or are fixed immediately upon discovery in order to prevent SJKF from being drawn to the project area to drink water.
23. Trash will be disposed of into containers rather than stockpiling on site prior to removal.
24. Materials or other stockpiles will be managed in a manner that will prevent SJKF from inhabiting them. Any materials or stockpiles that may have had SJKF take up residence shall be surveyed (consistent with pre-construction survey requirements) by a qualified biologist before they are moved.
25. The use of pesticides or herbicides shall be in compliance with all local, state, and federal regulations so as to avoid primary or secondary poisoning of endangered species and the depletion of prey upon which SJKF depend.
26. Permanent fences shall allow for SJFK passage through or underneath by providing frequent openings (8-inch x 12-inch) or an approximately 4-inch or greater passage gap between the ground and the bottom of the fence. Any fencing constructed after issuance of a final permit shall follow the above guidelines.
27. During project activities and/or the operation phase, any contractor or employee that inadvertently kills or injures a SJKF or who finds any such animal either dead, injured, or entrapped shall be required to report the incident immediately to the applicant and County. In the event that any observations are made of injured or dead SJKF, the applicant shall immediately notify the USFWS, CDFW, and the County by telephone. In addition, formal notification shall be provided in writing within 3 working days of the finding of any such animal(s). Notification shall include the date, time, location, and circumstances of the incident.
28. If potential SJKF dens are identified on site during the pre-construction survey, a qualified biologist shall be on site immediately prior to the initiation of project activities to inspect the site and dens for SJKF activity. If a potential den appears to be active or there is sign of SJKF activity on site and within the above-recommended buffers, no work can begin.

BR-5 American Badger (*Taxidea taxus*) Protection Measures

2. **Pre-construction Survey for American Badger.** A qualified biologist shall complete a pre-construction survey for badgers no less than 14 days and no more than 30 days prior to the start of initial project activities to determine if badgers are present within proposed work areas, in addition to a 200-foot buffer around work areas. The results of the survey shall be provided to the County prior to initial project activities.
    a. If a potential den is discovered, it shall be inspected to determine whether they are occupied. The survey shall cover the entire property and shall examine both old and new dens. The den will be monitored for 3 consecutive nights with an infra-red, motion-triggered camera, prior to any project activities, to determine if the den is being used by an American badger. If potential badger dens are too long to completely inspect from the entrance, a fiber optic scope shall be used to examine the den to the end. Inactive dens may be excavated by hand with a shovel to prevent re-use of dens during construction.

b. If an active badger den is found, an exclusion zone shall be established around the den. A minimum of a 50-foot exclusion zone shall be established during the non-reproductive season (July 1 to January 31) and a minimum 100-foot exclusion zone during the reproductive season (February 1 to June 30). Each exclusion zone shall encircle the den and have a radius of 50 feet (non-reproductive season) or 100 feet (reproductive season, nursing young may be present), measured outward from the burrow entrance. To avoid disturbance and the possibility of direct take of adults and nursing young, and to prevent badgers from becoming trapped in burrows during construction activity, no grading shall occur within 100 feet of active badger dens between February and July. All project activities, including foot and vehicle traffic and storage of supplies and equipment, are prohibited inside exclusion zones. Exclusion zones shall be maintained until all project-related disturbances have been terminated, or it has been determined by a qualified biologist that the den is no longer in use. If avoidance is not possible during project construction or continued operation, the County shall be contacted. The County will coordinate with appropriate resource agencies for guidance.

c. If more than 30 days pass between construction phases (e.g., vegetation trimming and the start of grading), during which no or minimal work activity occurs, the badger survey shall be repeated.

BR-6 **Site Maintenance and General Operations.** The following measures are required to minimize impacts during active construction and ongoing operations. All measures applicable during construction shall be included on plans. All measures applicable to operation shall be clearly posted on-site in a location(s) visible to workers and anyone visiting the site:

7. The use of heavy equipment and vehicles shall be limited to the proposed project limits and defined staging areas/access points. The boundaries of each work area shall be clearly defined and marked with high visibility fencing (e.g., t-posts and yellow rope) and/or flagging. No work or travel shall occur outside these limits.
8. Project plans, drawings, and specifications shall show the boundaries of all work areas on site and the location of erosion and sediment controls, limit delineation, and other pertinent measures to ensure the protection of sensitive habitat areas and associated resources.
9. Staging of equipment and materials shall occur in designated areas at least 100 feet from aquatic habitat (e.g., swales, drainages, ponds, vernal pools, if identified on site).
10. Secondary containment such as drip pans shall be used to prevent leaks and spills of potential contaminants.
11. Washing of concrete, paint, equipment, and refueling and maintenance of equipment shall occur only in designated areas. Sandbags and/or absorbent pads shall be available to prevent water and/or spilled fuel from leaving the site.
12. Equipment shall be inspected by the operator daily to ensure that equipment is in good working order and no fuel or lubricant leaks are present.

CR-1 In the event that archeological resources are unearthed or discovered during any construction activities, the following standards apply:

1. Construction activities shall cease, and the County of San Luis Obispo Project Manager shall be notified so that the extent and location of discovered materials may be recorded by a qualified archaeologist, and disposition of artifacts may be accomplished in accordance with state and federal law.
2. In the event archeological resources are found to include human remains, or in any other case when human remains are discovered during construction, the Coroner shall be notified in addition to the County of San Luis Obispo Project Manager so proper disposition may be accomplished.

GRADING & EROSION CONTROL PLANS

WEST SAN MIGUEL IRRIGATION & FROST PROTECTION RESERVOIR

APN 027-011-010
SAN LUIS OBISPO COUNTY, CA

SAN LUIS OBISPO COUNTY GENERAL NOTES - REQUIRED

1. ALL GRADING CONSTRUCTION SHALL CONFORM TO THE APPLICABLE CODES LISTED ON THIS SHEET. (12a&b)
A PRE-CONSTRUCTION MEETING IS REQUIRED WITH THE COUNTY INSPECTOR TO GO OVER SPECIAL INSPECTION REPORTING REQUIREMENTS, STRUCTURAL OBSERVATION (LINER), EROSION & SEDIMENTATION CONTROL, AND REPORTS REQUIRED.
CALL MICHELLE FREEMAN 781-5707
2. DUST CONTROL IS TO BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
3. AREAS OF FILL SHALL BE SCARIFIED, BENCHING AND RECOMPACTED PRIOR TO REPLACING FILL AND OBSERVED BY A SOIL OR CIVIL ENGINEER.
4. FILL MATERIAL WILL BE RECOMPACTED TO 90% OF MAXIMUM DENSITY.
5. REMOVE ANY DELETERIOUS MATERIAL ENCOUNTERED BEFORE PLACING FILL.
6. NO CUT OR FILL SLOPES WILL BE CONSTRUCTED STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2:1).
7. ALL DISTURBED AREA SHALL BE HYDRO SEEDED OR PLANTED WITH APPROVED EROSION CONTROL VEGETATION AS SOON AS PRACTICAL AFTER CONSTRUCTION IS COMPLETE.
8. MINIMUM SETBACK TO CREEKS AND BLUFFS SHALL BE MAINTAINED. MINIMUM SETBACK OF TWO FEET FROM ALL PROPERTY LINES WILL BE MAINTAINED FOR ALL GRADING.
9. MINIMUM SLOPE AWAY FROM BUILDINGS SHALL BE 2% FOR THE FIRST THREE FEET AROUND PERIMETER.
10. AN APPROVED EROSION CONTROL PLAN WILL BE REQUIRED TO BE SUBMITTED, APPROVED AND IMPLEMENTED AT ALL TIMES.
11. THE COUNTY POLICY REGARDING PAD CERTIFICATION SHALL BE FOLLOWED. A SOIL OR CIVIL ENGINEER TO DETERMINE GRADING PERFORMED IS IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED PLANS AND IS SUITABLE TO SUPPORT THE INTENDED STRUCTURE(S). (8)
12. WRITTEN VERIFICATION IS NEEDED FROM SOILS ENGINEER THAT THE FINAL PLANS HAVE BEEN REVIEWED AND FOUND TO BE CONSISTENT WITH THE SOILS REPORT.

KIT FOX SPECIAL REQUIREMENTS

BR-1. SAN JOAQUIN KIT FOX - RETAINING QUALIFIED PROJECT BIOLOGIST. PRIOR TO ISSUANCE OF GRADING AND/OR CONSTRUCTION PERMITS, THE APPLICANT SHALL PROVIDE EVIDENCE THAT THEY HAVE RETAINED A QUALIFIED BIOLOGIST ACCEPTABLE TO THE COUNTY. THE BIOLOGIST SHALL PERFORM THE FOLLOWING MONITORING ACTIVITIES:
a. PRIOR TO ISSUANCE OF GRADING AND/OR CONSTRUCTION PERMITS AND WITHIN 30 DAYS PRIOR TO INITIATION OF SITE DISTURBANCE AND/OR CONSTRUCTION, THE BIOLOGIST SHALL CONDUCT A PRE-ACTIVITY (I.E. PRE-CONSTRUCTION) SURVEY FOR KNOWN OR POTENTIAL KIT FOX DENS AND SUBMIT A LETTER TO THE COUNTY REPORTING THE DATE THE SURVEY WAS CONDUCTED, THE SURVEY PROTOCOL, SURVEY RESULTS, AND WHAT MEASURES WERE NECESSARY (AND COMPLETED), AS APPLICABLE, TO ADDRESS ANY KIT FOX ACTIVITY WITHIN THE PROJECT LIMITS.
b. THE QUALIFIED BIOLOGIST SHALL CONDUCT WEEKLY SITE VISITS DURING SITE-DISTURBANCE ACTIVITIES (I.E. GRADING, DISKING, EXCAVATION, STOCK PILING OF DIRT OR GRAVEL, ETC.) THAT PROCEED LONGER THAN 14 DAYS, FOR THE PURPOSE OF MONITORING COMPLIANCE WITH REQUIRED 'PROJECT CONSTRUCTION CONDITIONS' BR-2. SITE- DISTURBANCE ACTIVITIES LASTING UP TO 14 DAYS DO NOT REQUIRE WEEKLY MONITORING BY THE BIOLOGIST UNLESS OBSERVATIONS OF KIT FOX OR THEIR DENS ARE MADE ON-SITE OR THE QUALIFIED BIOLOGIST RECOMMENDS MONITORING FOR SOME OTHER REASON (SEE BR-2-C3). WHEN WEEKLY MONITORING IS REQUIRED, THE BIOLOGIST SHALL SUBMIT WEEKLY MONITORING REPORTS TO THE COUNTY.
c. PRIOR TO OR DURING PROJECT ACTIVITIES, IF ANY OBSERVATIONS ARE MADE OF SAN JOAQUIN KIT FOX, OR ANY KNOWN OR POTENTIAL SAN JOAQUIN KIT FOX DENS ARE DISCOVERED WITHIN THE PROJECT LIMITS, THE QUALIFIED BIOLOGIST SHALL RE-ASSESS THE PROBABILITY OF INCIDENTAL TAKE (E.G. HARM OR DEATH) TO KIT FOX. AT THE TIME A DEN IS DISCOVERED, THE QUALIFIED BIOLOGIST SHALL CONTACT THE U.S. FISH AND WILDLIFE SERVICE AND CDFW FOR GUIDANCE ON POSSIBLE ADDITIONAL KIT FOX PROTECTION MEASURES TO IMPLEMENT AND WHETHER OR NOT A FEDERAL AND/OR STATE INCIDENTAL TAKE PERMIT IS NEEDED. IF A POTENTIAL DEN IS ENCOUNTERED DURING CONSTRUCTION, WORK SHALL STOP UNTIL SUCH TIME THE U.S. FISH AND WILDLIFE SERVICE/DEPARTMENT DETERMINE IT IS APPROPRIATE TO RESUME WORK.
IF INCIDENTAL TAKE OF KIT FOX DURING PROJECT ACTIVITIES IS POSSIBLE, BEFORE PROJECT ACTIVITIES COMMENCE, THE APPLICANT MUST CONSULT WITH THE U.S. FISH AND WILDLIFE SERVICE AND CDFW (SEE CONTACT INFORMATION BELOW). THE RESULTS OF THIS CONSULTATION MAY REQUIRE THE APPLICANT TO OBTAIN A FEDERAL AND/OR STATE PERMIT FOR INCIDENTAL TAKE DURING PROJECT ACTIVITIES. THE APPLICANT SHOULD BE AWARE THAT THE 1) PRESENCE OF KIT FOXES OR 2) KNOWN OR POTENTIAL KIT FOX DENS AT THE PROJECT SITE COULD RESULT IN FURTHER DELAYS OF PROJECT ACTIVITIES.
IN ADDITION, THE QUALIFIED BIOLOGIST SHALL IMPLEMENT THE FOLLOWING MEASURES:
d. WITHIN 30 DAYS PRIOR TO INITIATION OF SITE DISTURBANCE AND/OR CONSTRUCTION, EXCLUSION ZONE BOUNDARIES SHALL BE ESTABLISHED AROUND ALL KNOWN AND POTENTIAL KIT FOX DENS. EXCLUSION ZONE BOUNDARIES SHALL CONSIST OF EITHER LARGE FLAGGED STAKES CONNECTED BY ROPE OR CORD, OR SURVEY LATHS OR WOODEN STAKES PROMINENTLY FLAGGED WITH SURVEY RIBBON. EACH EXCLUSION ZONE SHALL BE ROUGHLY CIRCULAR IN CONFIGURATION WITH A RADIUS OF THE FOLLOWING DISTANCE MEASURED OUTWARD FROM THE DEN OR BURROW ENTRANCES:
1. POTENTIAL KIT FOX DEN: 50 FEET
2. KNOWN OR ACTIVE KIT FOX DEN: 100 FEET
3. KIT FOX PUPPING DEN: 150 FEET
e. ALL FOOT AND VEHICLE TRAFFIC, AS WELL AS ALL CONSTRUCTION ACTIVITIES, INCLUDING STORAGE OF SUPPLIES AND EQUIPMENT, SHALL REMAIN OUTSIDE OF EXCLUSION ZONES. EXCLUSION ZONES SHALL BE MAINTAINED IN GOOD WORKING ORDER UNTIL ALL PROJECT-RELATED CONSTRUCTION ACTIVITIES HAVE BEEN TERMINATED. AT SUCH TIME THESE BOUNDARY MARKERS SHALL BE REMOVED.
IF KIT FOXES OR KNOWN OR POTENTIAL KIT FOX DENS ARE FOUND ON SITE, DAILY MONITORING DURING GROUND DISTURBING ACTIVITIES SHALL BE REQUIRED BY A QUALIFIED BIOLOGIST.

BR-2. SAN JOAQUIN KIT FOX – PROJECT CONSTRUCTION CONDITIONS. PRIOR TO ISSUANCE OF GRADING AND/OR CONSTRUCTION PERMITS, THE APPLICANT SHALL INCORPORATE THE FOLLOWING MEASURES PRIOR TO AND DURING CONSTRUCTION. ALL OF THESE MEASURES SHALL BE PLACED ON APPLICABLE CONSTRUCTION DRAWINGS. IN ADDITION, AN EDUCATIONAL TRAINING PROGRAM SHALL BE IMPLEMENTED FOR ALL ON-SITE CONSTRUCTION PERSONNEL.
a. CLEARLY DELINEATE AS A NOTE ON THE CONSTRUCTION DRAWINGS THAT: "SPEED SIGNS OF 25 MPH (OR LOWER) SHALL BE POSTED FOR ALL CONSTRUCTION TRAFFIC TO MINIMIZE THE PROBABILITY OF ROAD MORTALITY OF THE SAN JOAQUIN KIT FOX". SPEED LIMIT SIGNS SHALL BE INSTALLED ON THE PROJECT SITE WITHIN 30 DAYS PRIOR TO INITIATION OF SITE DISTURBANCE AND/OR CONSTRUCTION.
b. DURING THE SITE DISTURBANCE AND/OR CONSTRUCTION PHASE, GRADING AND CONSTRUCTION ACTIVITIES AFTER DUSK SHALL BE PROHIBITED UNLESS COORDINATED THROUGH THE COUNTY, DURING WHICH ADDITIONAL KIT FOX MITIGATION MEASURES MAY BE REQUIRED.
c. PRIOR TO ISSUANCE OF GRADING AND/OR CONSTRUCTION PERMIT AND WITHIN 30 DAYS PRIOR TO INITIATION OF SITE DISTURBANCE AND/OR CONSTRUCTION, ALL PERSONNEL ASSOCIATED WITH THE PROJECT SHALL ATTEND A WORKER EDUCATION TRAINING PROGRAM, CONDUCTED BY A QUALIFIED BIOLOGIST, TO AVOID OR REDUCE IMPACTS ON SENSITIVE BIOLOGICAL RESOURCES (I.E. SAN JOAQUIN KIT FOX). AT A MINIMUM, AS THE PROGRAM RELATES TO THE KIT FOX, THE TRAINING SHALL INCLUDE THE KIT FOX'S LIFE HISTORY, ALL MITIGATION MEASURES SPECIFIED BY THE COUNTY, AS WELL AS ANY RELATED BIOLOGICAL REPORT(S) PREPARED FOR THE PROJECT. THE APPLICANT SHALL NOTIFY THE COUNTY SHORTLY PRIOR TO THIS MEETING. A KIT FOX FACT SHEET SHALL ALSO BE DEVELOPED PRIOR TO THE TRAINING PROGRAM, AND DISTRIBUTED AT THE TRAINING PROGRAM TO ALL CONTRACTORS, EMPLOYERS AND OTHER PERSONNEL INVOLVED WITH THE CONSTRUCTION OF THE PROJECT.
d. DURING THE SITE-DISTURBANCE AND/OR CONSTRUCTION PHASE, TO PREVENT ENTRAPMENT OF THE SAN JOAQUIN KIT FOX, ALL EXCAVATION, STEEP-WALLED HOLES OR TRENCHES IN EXCESS OF TWO FEET IN DEPTH SHALL BE COVERED AT THE CLOSE OF EACH WORKING DAY BY PLYWOOD OR SIMILAR MATERIALS, OR PROVIDED WITH ONE OR MORE ESCAPE RAMPS CONSTRUCTED OF EARTH FILL OR WOODEN PLANKS. TRENCHES SHALL ALSO BE INSPECTED FOR ENTRAPPED KIT FOX EACH MORNING PRIOR TO ONSET OF FIELD ACTIVITIES AND IMMEDIATELY PRIOR TO COVERING WITH PLYWOOD AT THE END OF EACH WORKING DAY. BEFORE SUCH HOLES OR TRENCHES ARE FILLED, THEY SHALL BE THOROUGHLY INSPECTED FOR ENTRAPPED KIT FOX. ANY KIT FOX SO DISCOVERED SHALL BE ALLOWED TO ESCAPE BEFORE FIELD ACTIVITIES RESUME, OR REMOVED FROM THE TRENCH OR HOLE BY A QUALIFIED BIOLOGIST AND ALLOWED TO ESCAPE UNIMPEDED.
e. DURING THE SITE-DISTURBANCE AND/OR CONSTRUCTION PHASE, ANY PIPES, CULVERTS, OR SIMILAR STRUCTURES WITH A DIAMETER OF FOUR INCHES OR GREATER, STORED OVERNIGHT AT THE PROJECT SITE SHALL BE THOROUGHLY INSPECTED FOR TRAPPED SAN JOAQUIN KIT FOXES BEFORE THE SUBJECT PIPE IS SUBSEQUENTLY BURIED, CAPPED, OR OTHERWISE USED OR MOVED IN ANY WAY. IF DURING THE CONSTRUCTION PHASE A KIT FOX IS DISCOVERED INSIDE A PIPE, THAT SECTION OF PIPE WILL NOT BE MOVED, OR IF NECESSARY, BE MOVED ONLY ONCE TO REMOVE IT FROM THE PATH OF ACTIVITY, UNTIL THE KIT FOX HAS ESCAPED.
f. DURING THE SITE-DISTURBANCE AND/OR CONSTRUCTION PHASE, ALL FOOD-RELATED TRASH ITEMS SUCH AS WRAPPERS, CANS, BOTTLES, AND FOOD SCRAPS GENERATED SHALL BE DISPOSED OF IN CLOSED CONTAINERS ONLY AND REGULARLY REMOVED FROM THE SITE. FOOD ITEMS MAY ATTRACT SAN JOAQUIN KIT FOXES ONTO THE PROJECT SITE, CONSEQUENTLY EXPOSING SUCH ANIMALS TO INCREASED RISK OF INJURY OR MORTALITY. NO DELIBERATE FEEDING OF WILDLIFE SHALL BE ALLOWED.
g. PRIOR TO, DURING AND AFTER THE SITE-DISTURBANCE AND/OR CONSTRUCTION PHASE, USE OF PESTICIDES OR HERBICIDES SHALL BE IN COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS. THIS IS NECESSARY TO MINIMIZE THE PROBABILITY OF PRIMARY OR SECONDARY POISONING OF ENDANGERED SPECIES UTILIZING ADJACENT HABITATS, AND THE DEPLETION OF PREY UPON WHICH SAN JOAQUIN KIT FOXES DEPEND.
h. DURING THE SITE-DISTURBANCE AND/OR CONSTRUCTION PHASE, ANY CONTRACTOR OR EMPLOYEE THAT INADVERTENTLY KILLS OR INJURES A SAN JOAQUIN KIT FOX OR WHO FINDS ANY SUCH ANIMAL EITHER DEAD, INJURED, OR ENTRAPPED SHALL BE REQUIRED TO REPORT THE INCIDENT IMMEDIATELY TO THE APPLICANT AND COUNTY. IN THE EVENT THAT ANY OBSERVATIONS ARE MADE OF INJURED OR DEAD KIT FOX, THE APPLICANT SHALL IMMEDIATELY NOTIFY THE U.S. FISH AND WILDLIFE SERVICE AND THE DEPARTMENT BY TELEPHONE (SEE CONTACT INFORMATION BELOW). IN ADDITION, FORMAL NOTIFICATION SHALL BE PROVIDED IN WRITING WITHIN THREE WORKING DAYS OF THE FINDING OF ANY SUCH ANIMAL(S). NOTIFICATION SHALL INCLUDE THE DATE, TIME, LOCATION AND CIRCUMSTANCES OF THE INCIDENT. ANY THREATENED OR ENDANGERED SPECIES FOUND DEAD OR INJURED SHALL BE TURNED OVER IMMEDIATELY TO THE DEPARTMENT FOR CARE, ANALYSIS, OR DISPOSITION.
i. PRIOR TO FINAL INSPECTION, OR OCCUPANCY, WHICHEVER COMES FIRST, SHOULD ANY LONG INTERNAL OR PERIMETER FENCING BE PROPOSED OR INSTALLED, THE APPLICANT SHALL DO THE FOLLOWING TO PROVIDE FOR KIT FOX PASSAGE:
1. IF A WIRE STRAND/POLE DESIGN IS USED, THE LOWEST STRAND SHALL BE NO CLOSER TO THE GROUND THAN 12".
2. IF A MORE SOLID WIRE MESH FENCE IS USED, 8" X 12" OPENINGS NEAR THE GROUND SHALL BE PROVIDED EVERY 100 YARDS.
UPON FENCE INSTALLATION, THE APPLICANT SHALL NOTIFY THE COUNTY TO VERIFY PROPER INSTALLATION. ANY FENCING CONSTRUCTED AFTER ISSUANCE OF A FINAL PERMIT SHALL FOLLOW THE ABOVE GUIDELINES.

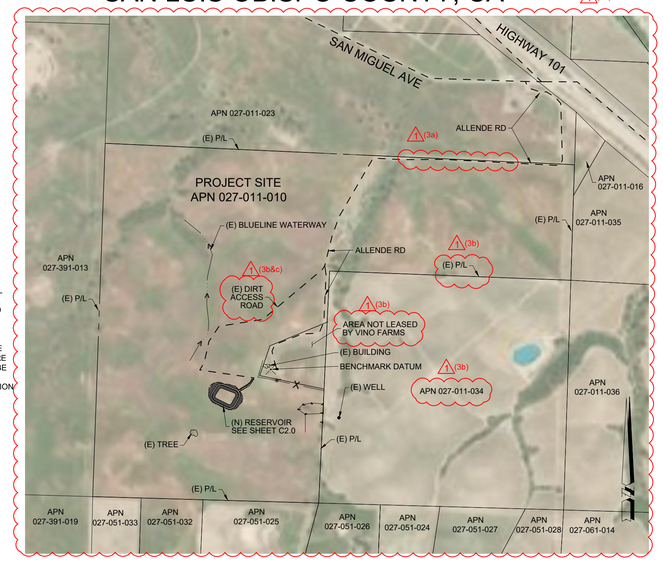
CONTACT INFORMATION
FOR QUESTIONS ABOUT THE COUNTY PERMITTING PROCESS, IN-LIEU FEE PROCESS, OR PURCHASE OF CONSERVATION BANK CREDITS, PLEASE CONTACT ROB FITZROY AT (805) 781-5179 OR HOLLY PHIPPS (805) 781-1162 IN THE COUNTY DEPARTMENT OF PLANNING AND BUILDING.
FOR QUESTIONS CONCERNING STATE REQUIREMENTS, CONTACT CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (BRANDON ANDERSON) AT (805) 594-6141.
FOR QUESTIONS CONCERNING FEDERAL REQUIREMENTS, CONTACT THE UNITED STATES FISH AND WILDLIFE SERVICE AT (805) 644-1766.

SITE ARCHAEOLOGICAL DISCOVERIES

IN THE EVENT THAT ARCHAEOLOGICAL RESOURCES ARE UNEARTHED OR DISCOVERED DURING ANY CONSTRUCTION ACTIVITIES, THE FOLLOWING STANDARDS APPLY:

1. CONSTRUCTION ACTIVITIES SHALL CEASE, AND THE ENVIRONMENTAL COORDINATOR AND THE PLANNING AND BUILDING DEPARTMENT SHALL BE NOTIFIED SO THAT THE EXTENT AND LOCATION OF DISCOVERED MATERIALS MAY BE RECORDED BY A QUALIFIED ARCHAEOLOGIST, AND DISPOSITION OF ARTIFACTS MAY BE ACCOMPLISHED IN ACCORDANCE WITH STATE AND FEDERAL LAW.
2. IN THE EVENT ARCHAEOLOGICAL RESOURCES ARE FOUND TO INCLUDE HUMAN REMAINS, OR IN ANY OTHER CASE WHERE HUMAN REMAINS ARE DISCOVERED DURING CONSTRUCTION, THE COUNTY CORONER IS TO BE NOTIFIED IN ADDITION TO THE PLANNING AND BUILDING DEPARTMENT AND THE ENVIRONMENTAL COORDINATOR SO THAT PROPER DISPOSITION MAY BE ACCOMPLISHED.

(3a)



OVERALL SITE PLAN
1" = 800'

AG RESERVOIR SAFETY NOTES

1. THE PROPERTY OWNER OR PROJECT MANAGER SHALL INSTALL A SAFETY ROPE SYSTEM VISIBLY MARKED WITH SIGNAGE AT STRATEGIC LOCATIONS AROUND THE AG RESERVOIR TO ENSURE THAT PEOPLE CAN EXIT THE POND SAFELY IN THE EVENT OF AN ACCIDENTAL FALL IN.
2. ALL PERSONNEL THAT WORK AROUND THE AG RESERVOIR SHOULD BE INFORMED AND PROPERLY TRAINED IN SAFETY PRACTICES AND PROCEDURES OF THE SAFETY ROPE SYSTEM.

THIS AG RESERVOIR IS "NON-JURISDICTIONAL" WITH THE CALIFORNIA DIVISION OF SAFETY OF DAMS, SINCE THE CAPACITY IS LESS THAN 50 AC-FT (9.57 AC-FT ACTUAL) AND THE DAM HEIGHT DOES NOT EXCEED 25 FT (18.3' ACTUAL).

N.R.C.S. PRACTICES CONSIDERED

#378 - POND
#342A&B - CRITICAL AREA PLANTING
#402 - DAM
#436 - IRRIGATION RESERVOIR
#521A - POND SEALING OR LINING
#570 - STORM WATER RUNOFF CONTROL
#578 - CULVERT CROSSING
#903 - EARTH FILL
#907 - ROCK RIP-RAP
TR-60 - TECHNICAL RELEASE 60 (EARTH DAMS AND RESERVOIRS)

NOTE: THIS PROJECT HAS BEEN DESIGNED CONSIDERING THE ABOVE N.R.C.S. PRACTICES AS WELL AS SLO COUNTY ORDINANCES AND STANDARD ENGINEERING PRACTICES, AND RECOMMENDATIONS FROM THE GEOTECHNICAL ENGINEER.

ABBREVIATIONS USED

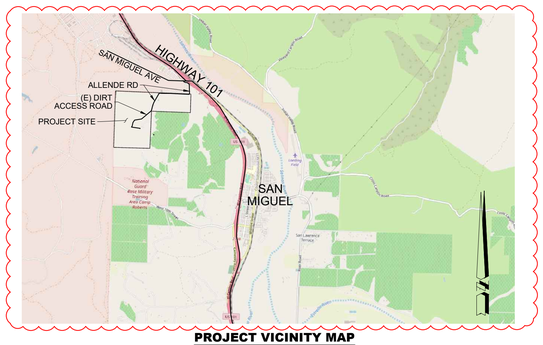
(P) = PROPOSED
(E) = EXISTING
(TYP) = TYPICAL
MG = MILLION GALLONS
AC-FT = ACRE-FEET
SF = SQUARE FEET
MIN = MINIMUM
P/L = PROPERTY LINE
EG = EXISTING GRADE
FG = FINISHED GRADE
FL = FLOW LINE
LID = LOW IMPACT DEVELOPMENT
NRCS = USDA NATURAL RESOURCES CONSERVATION SERVICE

REQUIRED VERIFICATION AND INSPECTION OF SOILS (10a)

TABLE 1705.6 (2019 CALIFORNIA BUILDING CODE)
REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.		X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.		X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.		X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.		X

(3a)



PROJECT VICINITY MAP
NTS

SCOPE OF WORK

THIS PLAN SUPPORTS ONLY THE GRADING, DRAINAGE, AND EROSION CONTROL PORTION OF THE PROPOSED AG RESERVOIR PROJECT; THE IRRIGATION AND LINEAR SYSTEMS ARE THE RESPONSIBILITY OF OTHERS.

1. CONSTRUCTION SHALL CONFORM TO THESE PLANS, RECOMMENDATIONS FROM THE GEOTECHNICAL ENGINEERS REPORT, COUNTY GRADING REQUIREMENTS AND ALL APPLICABLE CALIFORNIA BUILDING CODES AND COUNTY CODES, ORDINANCES AND PRACTICES.
2. INSTALL A 3.1 MG, 9.57 AC-FT AG RESERVOIR, 14 FEET DEEP (2 FT OF FREEBOARD) DAM HEIGHT 18.3' MAX.

DESCRIPTION OF AGRICULTURAL USE

THIS RESERVOIR SHALL BE USED SPECIFICALLY FOR IRRIGATION AND FROST CONTROL PURPOSES FOR XX ACRES OF WINE GRAPES.

PRE-CONSTRUCTION MEETING (12b)

A PRE-CONSTRUCTION MEETING IS REQUIRED WITH THE COUNTY INSPECTOR TO GO OVER SPECIAL INSPECTION REPORTING REQUIREMENTS, STRUCTURAL OBSERVATION (LINER), EROSION & SEDIMENTATION CONTROL, AND REPORTS REQUIRED.
CALL MICHELLE FREEMAN 781-5707

REPORTS REQUIRED

UPON COMPLETION OF CONSTRUCTION THE ENGINEER OF RECORD SHALL PREPARE AND SUBMIT TO THE COUNTY OF SLO A FINAL REPORT STATING THAT THE WORK IS IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED PLANS. PROGRESS REPORTS ARE REQUIRED BY THE ENGINEER OF RECORD TO THE GRADING AND INSPECTION AS DETERMINED DURING THE PRE-CONSTRUCTION MEETING.

SEPARATE PERMITS REQUIRED (5)

SEPARATE PERMITS ARE REQUIRED FOR THE FOLLOWING:
ELECTRICAL

SPECIAL INSPECTIONS (10b & 11)

1. GEOTECHNICAL ENGINEER SHALL PERFORM THE REQUIRED SPECIAL INSPECTIONS FOR THIS PROJECT.
2. GEOTECHNICAL ENGINEER SHALL INSPECT ALL EARTHWORK AND ROADWAY CONCRETE AND SUBGRADE PLACEMENT.
3. THE ENGINEER OF RECORD SHALL INSPECT THE INSTALLATION OF THE POND LINER. CONTACT BLAINE REELY AT 805-280-1051

PROJECT INFORMATION

OWNER: VINO FARMS, LLC

CONTACT: TAVO ACOSTA
1377 E. LODI AVE.
LODI, CA 95240
(805) 878-1049

ENGINEER: MONSOON CONSULTANTS

CONTACT: BLAINE REELY
P.O. BOX 151
SAN LUIS OBISPO, CA 93406
(805) 280-1051

(6a)

GEOTECHNICAL ENGINEER: GEOSOLUTIONS, INC

CONTACT: KRAIG CROZIER, PE
220 HIGH STREET
SAN LUIS OBISPO, CA 93401
(805) 543-8539

POND REPORT
TOP OF DAM ELEVATION: 745.5
WATER SURFACE ELEVATION: 743.5
BOTTOM OF POND ELEVATION: 731.5
LOWEST GRADE OUTSIDE OF DAM: 727.2
DAM HEIGHT: 18.3'
TOP OF DAM WIDTH: 14.0'
CUT SLOPE: 2.5:1
FILL SLOPE: 2.5:1
INTERIOR SLOPE: 2.5:1

(19)

EARTHWORK ESTIMATES

CUT	10,275 CUBIC YARDS
FILL	10,169 CUBIC YARDS (WITH 25% SHRINKAGE)
EXPORT	106 CUBIC YARDS

(P) RESERVOIR VOLUME: 9.57 ACRE-FEET
AREA OF DISTURBANCE: 1.75 ACRES

SINCE THIS IS AGRICULTURAL GRADING, THE REGIONAL WATER QUALITY CONTROL BOARD HAS DETERMINED THAT ENROLLMENT IN THE STATE CONSTRUCTION GENERAL PERMIT IS NOT REQUIRED.

ENGINEER'S CERTIFICATE

I, BLAINE T. REELY, RCE 46806, ENGINEER OF RECORD, HEREBY CERTIFY THAT THESE PLANS ARE IN ACCORDANCE WITH THE FOLLOWING CODES:

DATE:_____

(4)

2019 CALIFORNIA ENERGY CODES
2019 CALIFORNIA BUILDING CODE, VOLS 1 & 2
2019 CALIFORNIA ELECTRICAL CODE
2019 CALIFORNIA ENERGY CODE
2019 CALIFORNIA FIRE CODE
2019 CALIFORNIA GREEN BUILDING CODE
2019 CALIFORNIA MECHANICAL CODE
2019 CALIFORNIA PLUMBING CODE
2019 REFERENCE STANDARDS CODE
2019 CALIFORNIA CODE OF REGULATIONS - TITLE 24
COUNTY BUILDING AND CONSTRUCTION ORDINANCE - TITLE 19
COUNTY FIRE CODE ORDINANCE - TITLE 16
COUNTY LAND USE ORDINANCE - TITLE 22
COUNTY COASTAL ZONE LAND USE ORDINANCE - TITLE 23

GEOTECHNICAL ENGINEER'S CERTIFICATE (7)

I HAVE REVIEWED THE PLANS AND SPECIFICATIONS AND HAVE FOUND THEM TO BE IN SUBSTANTIAL CONFORMANCE WITH THE RECOMMENDATIONS AS FOUND IN MY SOIL INVESTIGATION.

_____DATE:_____

BENCHMARK DATUM

LOCAL AREA BENCHMARK
N 247,134.164, E 575,811.723, ELEV. 744.17
APPROX. 430 FT NE FROM RESERVOIR ACCESS POINT (SEE GRADING PLAN)
(21)
TOPOGRAPHIC SURVEY PERFOMED BY:
DH SURVEY
(805) 400-5940
SURVEY DATE: 6/27/19

SHEET INDEX

C1.0 TITLE SHEET
C1.1 NOTES SHEET
C2.0 GRADING PLAN
C2.1 GRADING DETAILS
C2.2 GRADING DETAILS
C3.0 EROSION CONTROL PLAN
C3.1 EROSION DETAILS

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED EITHER FROM RECORD DOCUMENTS OR FIELD LOCATIONS BY THE OPERATOR. THE ENGINEER AND SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. AND FURTHER DO NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY DO CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

MONSOON
P.O. BOX 151 SAN LUIS OBISPO, CA 93406
805-476-6168 PH. breely@monsoonconsultants.com

REVISIONS

Number	Date	Description
1	10/09/2020	Plan Check 01 Comments

Project Number: 2018.07.001
Project Location: APN 027-011-010 SLO COUNTY, CA
Sheet Title: TITLE SHEET
Owner / Applicant: VINO FARMS, LLC 1377 E. LODI AVE. LODI, CA 95240

REGISTERED PROFESSIONAL ENGINEER BLAINE T. REELY Lic. No. 46806 Expires 6/30/21 CIVIL STATE OF CALIFORNIA
10-09-2020

Date:	10-09-2020
Scale:	PER PLAN
Drawn by:	ARR
Checked by:	BTR
Sheet:	C1.0

GENERAL NOTES

CONFORMANCE AND LIABILITY

1. PROJECT PARTICIPANTS SHALL BE REFERRED TO ACCORDING TO THE FOLLOWING:
   a. OWNER: VINO FARMS, LLC
   b. ENGINEER: BLAINE REELY, MONSOON CONSULTANTS
   c. GEOTECHNICAL ENGINEER: GEOSOLUTIONS, INC.
   d. ARCHITECT: N/A
   e. AGENCY: COUNTY OF SAN LUIS OBISPO
   f. UTILITIES:

ELECTRICAL	PG&E
CABLE	CHARTER COMMUNICATIONS
WATER	N/A
SEWER	N/A
TELECOM	AT&T
GAS	THE GAS COMPANY

2. PROJECT RELATED DOCUMENTS NAMED HEREON SHALL BE CONSIDERED A PART OF THESE PLANS AND SHALL BE REFERENCED ACCORDING TO THE FOLLOWING:

   CBC: CURRENT ADOPTED VERSION OF THE CALIFORNIA BUILDING CODE (2019).

   AGENCY STANDARD: CURRENT STANDARDS AND SPECIFICATIONS ADOPTED BY THE AGENCY LISTED IN ITEM 1 ABOVE.

   GEOTECHNICAL REPORT:

PREPARED BY:	GEOSOLUTIONS, INC. (6a&c)
REPORT NAME:	SOILS ENGINEERING REPORT VINO FARMS IRRIGATION STORAGE
PROJECT NO.	SL08159-6
DATE:	OCTOBER 18, 2019

   OTHER STANDARDS: CURRENT STANDARDS ADOPTED BY THE NAMED ENTITY. FOR EXAMPLE, "CALTRANS STANDARD" REFERS TO THE CURRENT STANDARD PLANS AND SPECIFICATIONS ADOPTED BY CALTRANS.

3. THESE PLANS MAY REFERENCE OTHER DOCUMENTS THAT ARE INTENDED TO BE A PART OF THIS PLAN. A REQUIREMENT OCCURRING IN ONE IS AS BINDING AS THOUGH OCCURRING IN ALL. THE DOCUMENTS ARE INTENDED TO BE COMPLEMENTARY, AND TO DESCRIBE AND PROVIDE FOR A COMPLETE WORK. OTHER DOCUMENTS NOTED MAY INCLUDE BUT ARE NOT LIMITED TO PROJECT SPECIFICATIONS, AGENCY STANDARD DETAILS AND SPECIFICATIONS, THE STATE STANDARD SPECIFICATIONS, THE STATE STANDARD PLANS, THE GREEN BOOK, PROJECT PLANS, AND SPECIAL PROVISIONS.

4. WHERE MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION ARE MORE STRINGENT THAN THOSE PRESCRIBED IN THESE PLANS, IN AGENCY STANDARDS & SPECIFICATIONS OR SPECIAL PROVISIONS, THE MANUFACTURER'S RECOMMENDATIONS SHALL TAKE PRECEDENCE. THIS CONDITION MAY BE WAIVED AT THE WRITTEN DIRECTION OF THE ENGINEER.

5. CONSTRUCTION ACTIVITIES SHALL NOT BEGIN UNTIL PLANS ARE APPROVED BY THE AGENCY AND ALL REQUIRED PERMITS HAVE BEEN ISSUED. IT IS THE RESPONSIBILITY OF CONTRACTOR TO VERIFY THAT ALL PERMITS NECESSARY TO PERFORM THE IMPROVEMENTS IN THESE PLANS HAVE BEEN ISSUED BY THE APPROPRIATE AGENCIES AND TO COMPLY WITH THE AGENCY'S REQUIREMENTS. ANY CONSTRUCTION ACTIVITIES PERFORMED WITHOUT APPROVED PLANS AND/OR REQUIRED PERMITS IS AT CONTRACTOR'S SOLE RISK AND EXPENSE, AND MAY BE REJECTED AND SUBJECT TO FINES OR PENALTIES AS REQUIRED BY THE AGENCY.

6. AN ENCROACHMENT PERMIT IS REQUIRED FOR ALL WORK WITHIN ANY PUBLIC RIGHT-OF-WAY, EASEMENT, ALLEY, PARK OR OTHER PUBLICLY OWNED OR MAINTAINED PROPERTY. IT IS CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE PROPER PERMITS FROM ALL RELEVANT AGENCIES UNLESS OTHERWISE STATED ON THE PERMIT OR OTHER SEPARATE WRITTEN AGREEMENT, ALL COSTS INCURRED FOR WORK WITHIN THE PUBLIC RIGHT-OF-WAY PURSUANT TO AN ENCROACHMENT PERMIT SHALL BE BORNE BY CONTRACTOR, AND CONTRACTOR HEREBY WAIVES ALL CLAIMS FOR INDEMNIFICATION OR CONTRIBUTION FROM THE OWNER, ENGINEER OR THE AGENCY.

7. CONTRACTOR SHALL SCHEDULE AND ATTEND A PRE-CONSTRUCTION MEETING PRIOR TO COMMENCEMENT OF WORK. THE MEETING WILL INCLUDE (AT A MINIMUM) THE OWNER/REPRESENTATIVE, CONTRACTORS, THE ENGINEER, THE GEOTECHNICAL ENGINEER, PERTINENT UTILITY COMPANY REPRESENTATIVES, THE SURVEYOR, AND AGENCY STAFF.

8. AN INSPECTION AGREEMENT MAY BE REQUIRED BY THE AGENCY PRIOR TO THE START OF CONSTRUCTION. IT IS THE OWNER'S RESPONSIBILITY TO OBTAIN THIS AGREEMENT. IT IS CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THIS AGREEMENT HAS BEEN EXECUTED PRIOR TO COMMENCEMENT OF CONSTRUCTION.

9. CONTRACTOR SHALL EXAMINE THE PROJECT SITE, THE APPROVED PLANS AND SPECIFICATIONS, AGENCY REQUIREMENTS, PERMIT REQUIREMENTS AND PROJECT CONDITIONS. THE SUBMITTAL OF BID OR THE START OF WORK BY CONTRACTOR SHALL BE CONCLUSIVE EVIDENCE THAT CONTRACTOR HAS PERFORMED DUE DILIGENCE AND IS SATISFIED AS TO THE GENERAL, LOCAL AND SPECIFIC CONDITIONS TO BE ENCOUNTERED; THE CHARACTER, QUALITY AND SCOPE OF WORK TO BE PERFORMED; AND THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS.

10. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE PRE-CONSTRUCTION GROUND ELEVATIONS AND THE GENERAL, OVERALL TOPOGRAPHY OF THE SITE PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, AND IN WRITING, OF ANY TOPOGRAPHIC DIFFERENCES THAT CONTRACTOR DETERMINES COULD AFFECT THE DESIGN AND/OR EARTHWORK QUANTITIES AND PROVIDE EVIDENCE OF SAME TO THE ENGINEER.

11. CONTRACTOR SHALL NOTIFY THE AGENCY AND THE ENGINEER TWO (2) WORKING DAYS PRIOR TO THE START OF WORK. IF WORK IS STOPPED FOR LONGER THAN FIVE (5) CONSECUTIVE WORKING DAYS, CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE AGENCY IMMEDIATELY UPON RESUMING WORK.

12. CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER AND THE OWNER BY TELEPHONE AND IN WRITING UPON DISCOVERY OF, AND BEFORE DISTURBING, ANY PHYSICAL CONDITIONS DIFFERING FROM THOSE REPRESENTED BY APPROVED PLANS AND SPECIFICATIONS. IF CONTRACTOR PROCEEDS PRIOR TO NOTIFICATION AND APPROVAL OF THE OWNER AND ENGINEER, CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY AND ALL EXPENSE FOR REPAIR OR RECONSTRUCTION TO CORRECT.

13. CONTRACTOR'S MEANS AND METHODS ARE AT THE SOLE DISCRETION OF CONTRACTOR. MEANS AND METHODS EMPLOYED BY CONTRACTOR SHALL PRODUCE THE ENTIRE WORKS DESCRIBED IN THESE PLANS. ANY DEVIATION FROM THESE PLANS, SPECIFICATIONS AND AGENCY STANDARDS WITHOUT PRIOR APPROVAL FROM THE ENGINEER SHALL BE DONE AT CONTRACTOR'S SOLE RISK AND EXPENSE.

14. CONSTRUCTION OPERATIONS, SERVICES. WORKMANSHIP AND INSTALLATIONS, MATERIALS, AND MANUFACTURED PRODUCTS SHALL CONFORM TO THESE PLANS, PROJECT SPECIFICATIONS, THE GEOTECHNICAL REPORT, AGENCY STANDARDS AND SPECIFICATIONS, AND THE CBC. THE WORK SHALL BE SUBJECT TO OBSERVATION AND TESTING, AND THE APPROVAL OF THE AGENCY.

15. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR PROTECTION OF PUBLIC AND PRIVATE PROPERTY WITHIN AND ADJACENT TO THE SITE. CONTRACTOR SHALL, AT HIS OWN EXPENSE, REPAIR OR REPLACE TO PRE-CONSTRUCTION CONDITION, ALL EXISTING IMPROVEMENTS WITHIN OR ADJACENT TO THE JOBSITE, WHICH ARE NOT DESIGNATED FOR REMOVAL AND ARE DAMAGED OR REMOVED AS A RESULT OF CONTRACTOR'S OPERATIONS.

16. CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE INDUSTRIAL SAFETY REGULATIONS. NEITHER THE AGENCY, ITS OFFICIALS, THE ENGINEER, NOR THE OWNER SHALL BE RESPONSIBLE FOR ENFORCING SAFETY REGULATIONS.

17. CONTRACTOR ACCEPTS SOLE AND COMPLETE RESPONSIBILITY FOR THE CONDITION OF THE JOB SITE DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY. CONTRACTOR FURTHER ACCEPTS THAT THIS REQUIREMENT APPLIES AT ALL TIMES. CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD HARMLESS THE AGENCY, THE OWNER AND THE ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT, EXCEPTING LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE ENGINEER.

18. CONTRACTOR SHALL CONTINUOUSLY MONITOR ALL ASPECTS OF CONSTRUCTION AND CONSTRUCTION STAKING TO IDENTIFY POTENTIAL CONFLICTS OR ERRORS IN DESIGN OR STAKING. DISPARITIES BETWEEN THE EXISTING SITE CONDITIONS AND THESE PLANS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER IN WRITING.

19. IF THE WORK TO BE DONE OR ANY OF THE MATTERS RELATIVE THERETO ARE NOT SUFFICIENTLY DETAILED OR EXPLAINED IN THESE PLANS AND/OR SPECIFICATIONS, CONTRACTOR (BEFORE PROCEEDING) SHALL CONTACT THE ENGINEER FOR CLARIFICATION AND SHALL CONFORM AS PART OF THE CONTRACT.

20. IN THE EVENT THAT THESE PLANS LACK SUFFICIENT HORIZONTAL OR VERTICAL CONTROL, CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING. IF CONTRACTOR FAILS TO DO SO, CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ERROR IN CONSTRUCTION AND RECONSTRUCTION TO CORRECT SUCH ERROR.

21. PRIOR TO THE PLACEMENT OF FINISHED PAVEMENT, WALLS, CURBS, SWALES OR PIPES, CONTRACTOR SHALL VERIFY THAT THE GRADED PLANE AND FORMS OR FALSE-WORK ESTABLISH THE LINES AND GRADES SHOWN ON THIS PLAN.

22. CONFLICTS WITHIN THESE PLANS, AND/OR IRREGULARITIES IN THE HORIZONTAL LINE OR VERTICAL GRADE OF IMPROVEMENTS SHOWN ON THESE PLANS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER IN WRITTEN FORM. IF CONTRACTOR FAILS TO DO SO, CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ERROR IN THE GRADE AND NECESSARY RECONSTRUCTION TO CORRECT SUCH ERROR.

23. CONTRACTOR SHALL OBTAIN A COPY OF THE PLANS AND CURRENT APPLICABLE STANDARDS AND SPECIFICATIONS AND KEEP THEM AT THE JOB SITE FOR REFERENCE AT ALL TIMES.

24. CONTRACTOR SHALL MAINTAIN A COMPLETE AND ACCURATE RECORD OF ALL CONSTRUCTED CHANGES THAT DEVIATE FROM THESE PLANS AND SPECIFICATIONS. THIS RECORD, AT A MINIMUM, SHALL INCLUDE PLAN MARKUPS, WRITTEN DESCRIPTIONS, AND A COMPREHENSIVE PHOTOGRAPHIC RECORD. THIS RECORD WILL BE THE BASIS FOR PREPARATION OF RECORD DRAWINGS BY THE ENGINEER. UPON COMPLETION OF THE PROJECT, CONTRACTOR SHALL DELIVER THIS RECORD TO THE ENGINEER ALONG WITH A LETTER WHICH STATES THAT, OTHER THAN THESE NOTED CHANGES, "THE PROJECT WAS CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS."

OBSERVATION AND TESTING

(9)

25. DURING THE COURSE OF WORK, CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR OBSERVATION AND TESTING AS REQUIRED BY THE AGENCY. WORK NOT OBSERVED OR TESTED IS SUBJECT TO REJECTION. THE ENGINEER OF RECORD SHALL INSPECT THE INSTALLATION OF THE POND LINER. CONTACT BLAINE REELY AT 805-280-1051

26. CONTRACTOR SHALL PROVIDE THE GEOTECHNICAL ENGINEER THE NECESSARY NOTICE AND TIME TO MAKE OBSERVATIONS AND TESTS AS DEEMED NECESSARY BY THE GEOTECHNICAL ENGINEER AND/OR AGENCY. CONTRACTOR SHALL OBTAIN A CERTIFICATION FROM THE GEOTECHNICAL ENGINEER STATING THE EARTHWORK AND ANY OTHER WORK UNDER THE PURVIEW OF THE GEOTECHNICAL ENGINEER WAS COMPLETED IN CONFORMANCE WITH THE PLANS AND GEOTECHNICAL REPORT AND SHALL DELIVER A COPY OF SAID CERTIFICATION TO THE ENGINEER.

27. THE ENGINEER MAY INSPECT THE WORK SHOWN ON THESE PLANS AT HIS DISCRETION. CONTRACTOR SHALL MAKE THE SITE AVAILABLE FOR INSPECTION AT THE REQUEST OF THE ENGINEER.

28. THE AGENCY'S INSPECTOR, ACTING ON BEHALF OF THE AGENCY, MAY REQUEST REVISIONS TO THE PLANS TO SOLVE UNFORESEEN ISSUES OR CONDITIONS THAT MAY ARISE IN THE FIELD. ALL REVISIONS SHALL BE SUBJECT TO THE REVIEW AND APPROVAL OF THE ENGINEER.

29. CONTRACTOR MAY REQUEST THAT HIGH-DENSITY POLYETHYLENE (HDPE) STORM DRAIN PIPE BE USED IN PLACE OF OTHER STORM DRAIN PIPE MATERIAL SPECIFIED ON THIS PLAN. THIS SUBSTITUTION IS NOT ABSOLUTE AND WILL REQUIRE THE WRITTEN APPROVAL OF THE AGENCY AND THE ENGINEER. HDPE PIPES SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS. ENGINEER OF WORK SHALL BE RETAINED TO OBSERVE AND INSPECT THE INSTALLATION. FINAL INSPECTION SHALL INCLUDE A MANDREL TEST. REMEDIAL WORK REQUIRED TO PASS ALL INSPECTIONS SHALL BE AT THE SOLE EXPENSE OF CONTRACTOR.

CONSTRUCTION

30. ALL WORK PERFORMED WITHIN PUBLIC RIGHTS-OF-WAY, PUBLIC PROPERTY, AND/OR PUBLIC EASEMENTS SHALL CONFORM TO THE AGENCY'S STANDARDS AND SPECIFICATIONS.

31. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH APPLICABLE HEALTH AND SAFETY LAWS, ORDINANCES, REGULATIONS, RULES, AND STANDARDS INCLUDING ALL REQUIREMENTS OF THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY AND OF CAL-OSHA.

32. CONSTRUCTION HOURS OF OPERATION ARE ESTABLISHED BY THE AGENCY. CONTRACTOR IS RESPONSIBLE FOR FOLLOWING ALL APPLICABLE LAWS, PERMIT CONDITIONS AND AGENCY POLICIES.

33. WHEN SPECIAL WORK HOURS ARE ISSUED BY THE AGENCY, CONTRACTOR SHALL NOTIFY THE ENGINEER AND MAKE ARRANGEMENTS FOR OBSERVATION AND TESTING DURING THESE HOURS AS NECESSARY.

34. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE NECESSARY GRADE CONTROL AND TO HAVE SUCH STAKES OR MARKS REQUIRED FOR HORIZONTAL AND VERTICAL CONTROL FOR THE EXECUTION AND COMPLETION OF THE WORK.

35. CONTRACTOR SHALL PRESERVE ALL EXISTING SURVEY MONUMENTS, INCLUDING SURVEY CONTROL, PROPERTY CORNERS AND BENCHMARKS AND SHALL BEAR ALL EXPENSE ASSOCIATED WITH SAID PRESERVATION, OR REPLACEMENT AND/OR RELOCATION OF SAID MONUMENTS AND BENCHMARKS.

36. MONUMENTS AND BENCH MARKS SHALL BE SET BY A LICENSED LAND SURVEYOR OR A REGISTERED CIVIL ENGINEER LICENSED TO SURVEY AT THE SOLE EXPENSE OF CONTRACTOR.

37. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR VEHICULAR AND PEDESTRIAN TRAFFIC CONTROLS AND SAFETY. CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN SUCH FENCING, SIGNS, LIGHTS, TRENCH PLATES, BARRICADES, AND/OR OTHER PROTECTION AS IS NECESSARY FOR SAID CONTROL AND SAFETY.

38. CONTRACTOR SHALL MAKE PROVISIONS AND/OR ARRANGEMENTS TO ACCOMMODATE PEDESTRIAN ACCESS THROUGH OR AROUND THE WORK AREA OR SHALL, WITH AGENCY APPROVAL, PROVIDE APPROPRIATE ADVANCED WARNING TO PEDESTRIANS TO UTILIZE ALTERNATE ROUTES.

39. ANY NECESSARY CONSTRUCTION SIGNS AND TRAFFIC CONTROL DEVICES SHALL BE PLACED PER THE APPROVED TRAFFIC CONTROL PLAN AND/OR TO THE SATISFACTION OF THE AGENCY PRIOR TO COMMENCING ANY CONSTRUCTION OR DEMOLITION ACTIVITIES. IT IS CONTRACTOR'S RESPONSIBILITY TO REVISE AND/OR RELOCATE SIGNS AND ANY OTHER NECESSARY TRAFFIC CONTROL DEVICES AS NECESSARY TO MAINTAIN SAFE CONDITIONS ON AND OFF THE SITE.

40. ALL PAVED TRAVELED-WAY SURFACES SHALL BE RESTORED TO AN ALL-WEATHER, TRAVERSABLE CONDITION AT THE END OF EACH WORK DAY, UNLESS OTHERWISE AUTHORIZED BY THE AGENCY TO REMAIN CLOSED.

41. STREET PAVEMENT TO BE REMOVED/REPLACED SHALL BE SAW CUT IN ACCORDANCE WITH THE AGENCY STANDARDS AND SPECIFICATIONS. THE PAVEMENT SHALL BE REMOVED TO REVEAL A COMPETENT STRUCTURAL SECTION AND NEW PAVIEMENT SHALL BE JOINED AT THIS POINT. EXISTING PAVEMENT SHALL BE CUT ALONG A NEAT VERTICAL LINE PARALLEL TO CENTERLINE WHERE POSSIBLE, AS DIRECTED BY THE ENGINEER OR THE AGENCY. MINIMUM PAVEMENT WIDTH APPLIED TO PATCHES, EDGING, OR LONGITUDINAL PAVEOUTS SHALL BE OF SUFFICIENT DIMENSION TO BE PROPERLY COMPACTED IN ACCORDANCE WITH THE AGENCY STANDARDS AND SPECIFICATIONS. A PAINT BINDER OF ASPHALTIC EMULSION SHALL BE APPLIED TO ALL VERTICAL SURFACES OF THE REMAINING PAVEMENT AGAINST WHICH NEW MATERIAL IS TO BE PLACED. THE STRUCTURAL SECTION SHALL BE INSPECTED BY THE AGENCY PRIOR TO THE CONSTRUCTION OF THE NEW SECTION.

42. THE STRUCTURAL PAVEMENT SECTIONS SHOWN ON THESE PLANS ARE TENTATIVE PENDING CONFORMATION OF THE R-VALUES BY THE GEOTECHNICAL ENGINEER AFTER ROUGH GRADE IS ACHIEVED. AT SUCH TIME, THE GEOTECHNICAL ENGINEER SHALL RECOMMEND THE STRUCTURAL PAVEMENT SECTION TO THE ENGINEER AND THE AGENCY FOR APPROVAL.

43. IT IS CONTRACTOR'S RESPONSIBILITY TO FURNISH OR OTHERWISE PROVIDE ALL MATERIALS REQUIRED TO COMPLETE THE WORK SHOWN ON THESE PLANS AS PART OF THE CONTRACT UNLESS OTHERWISE STATED. ENGINEER OF WORK, THE AGENCY, OR THE OWNER ARE NOT RESPONSIBLE FOR FURNISHING OR PROVIDING ANY MATERIAL OR SERVICE FOR CONSTRUCTION OR INSTALLATION UNLESS EXPLICITLY STATED ON THESE PLANS.

44. CONTRACTOR SHALL RAISE OR LOWER THE SURFACE FEATURES OF ALL EXISTING UNDERGROUND FACILITIES THAT REMAIN TO MATCH THE ADJACENT FINISHED GRADE REGARDLESS OF WHETHER EVERY INSTANCE OF SUCH WORK IS EXPLICITLY IDENTIFIED ON THE PLANS. CONTRACTOR SHALL IDENTIFY ALL LOCATIONS WHERE EXISTING FEATURES MAY NEED TO BE ADJUSTED TO GRADE PRIOR TO THE START OF CONSTRUCTION.

45. CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN SUCH SHEETING, SHORING, BRACING, AND/OR OTHER PROTECTION AS IS NECESSARY TO PREVENT FAILURE OF TEMPORARY EXCAVATIONS AND EMBANKMENTS AND TO PREVENT DAMAGE TO EXISTING IMPROVEMENTS, AND PARTIALLY COMPLETED PORTIONS OF THE WORK. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SUFFICIENCY OF SUCH SUPPORTS AND/OR OTHER PROTECTION.

46. PRIOR TO ORDERING MATERIALS, CONTRACTOR SHALL POTHOLE TO VERIFY THE LOCATION, ELEVATION, SIZE, CONDITION AND MATERIAL OF ALL EXISTING UTILITY POINTS OF CONNECTION AND CROSSINGS. CONTRACTOR SHALL CONFIRM THAT THE MATERIALS TO BE ORDERED ARE ADEQUATE TO PERFORM THE REQUIRED WORK BASED ON THE PHYSICAL INSPECTION OF THE EXISTING CONDITIONS IN THE FIELD. CONTRACTOR SHALL NOTIFY THE ENGINEER OF DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS PRIOR TO CONTINUING WORK.

47. CONTRACTOR SHALL MAINTAIN THE SITE TO CONTROL AND PRECLUDE EROSION AND SEDIMENTATION IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

48. CONTRACTOR SHALL PLACE EROSION CONTROL DEVICES AS SPECIFIED BY THE ENGINEER OR THE AGENCY AND MAINTAIN THEM UNTIL SUCH TIME AS THE PROJECT IS ACCEPTED AS COMPLETE BY THE AGENCY. THESE DEVICES SHALL BE IN PLACE OR READY TO BE PLACED DURING THE RAINY SEASON AS DEFINED BY THE AGENCY. IN THE EVENT THAT THE DEVICES ARE NOT PERMANENTLY IN PLACE, CONTRACTOR SHALL PLACE OR OTHERWISE INSTALL THE DEVICES WHEN THE FORECAST FOR RAIN EXCEEDS THIRTY PERCENT (30%).

49. AN EMERGENCY CREW SHALL BE AVAILABLE 24 HOURS PER DAY TO PLACE AND MAINTAIN THE EROSION CONTROL DEVICES AND ENSURE THEIR PROPER FUNCTION. THE PERSON RESPONSIBLE FOR MAINTAINING EROSION CONTROL PROTECTION IS NAMED BELOW:

   NAME: _____
   PHONE: _____

50. ALL PROJECTS INVOLVING SITE DISTURBANCE OF ONE ACRE OR GREATER SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPEDS). THE OWNER SHALL SUBMIT A NOTICE OF INTENT (NOI) TO COMPLY WITH THE GENERAL PERMIT FOR CONSTRUCTION ACTIVITY WITH THE REGIONAL WATER QUALITY CONTROL BOARD (RWQCB). THE OWNER SHALL PROVIDE THE AGENCY WITH THE WASTE DISCHARGE IDENTIFICATION NUMBER (WDID #) OR WITH VERIFICATION THAT AN EXEMPTION HAS BEEN GRANTED BY THE RWQCB.

   WDID # N/A

51. CONTRACTOR SHALL EMPLOY EROSION AND SEDIMENTATION CONTROL BEST MANAGEMENT PRACTICES (BMP) AS IDENTIFIED BY NPEDS, THE RWQCB, AND THE AGENCY.

52. CONTRACTOR SHALL ROUTINELY MONITOR THE PUBLIC ROADWAY ADJACENT TO THE SITE. MUD, SILT, SAND, GRAVEL OR ANY KIND OF DIRT DEPOSITED ON THE STREET SHALL BE REMOVED BY CONTRACTOR.

53. CONTRACTOR SHALL COORDINATE WITH THE PROJECT ARBORIST TO ENSURE COMPLIANCE WITH AGENCY REQUIREMENTS FOR TREE REMOVAL AND PROTECTION.

54. ALL TREES ON THIS SHOWN ON THIS PLAN SHALL BE PROTECTED TO THE SATISFACTION OF THE AGENCY UNLESS SPECIFICALLY DESIGNATED FOR REMOVAL ON THIS PLAN OR BY SEPARATE PERMIT.

55. STATED DIMENSIONS TAKE PRECEDENCE OVER DIMENSIONS SCALED FROM THIS PLAN. ALL DISTANCES SHOWN HEREON ARE MEASURED IN THE HORIZONTAL PLANE UNLESS OTHERWISE STATED.

GRADING

63. GRADING OPERATIONS SHALL BE CONDUCTED IN CONFORMANCE WITH THE GEOTECHNICAL REPORT AND FIELD DIRECTION FROM THE GEOTECHNICAL ENGINEER AS WELL AS ALL PERTINENT GOVERNMENT REGULATIONS INCLUDING BUT NOT LIMITED TO: THE AGENCY'S MUNICIPAL CODE, THIS PLAN, AND THE CBC.

64. EARTHWORK QUANTITIES AS SHOWN HEREON HAVE BEEN ESTIMATED FOR PERMIT AND/OR BONDING PURPOSES ONLY.

    CUT = 10,275 CUBIC YARDS
    FILL = 10,169 CUBIC YARDS
    NET 106 CUBIC YARDS EXPORT

    (19)

65. CONTRACTOR SHALL CALCULATE THE EARTHWORK QUANTITIES TO THEIR SATISFACTION PRIOR TO THE START OF CONSTRUCTION, INCLUDING, BUT NOT LIMITED TO, ALLOWANCE FOR SHRINKAGE, TRENCH SPOILS, STRIPPING, PRE-COMPACTION AND CONSOLIDATION. NO ADDITIONAL COMPENSATION WILL BE MADE FOR EXPORT OR IMPORT REQUIRED THAT HAS NOT BEEN IDENTIFIED IN CONTRACTOR'S BID/CONTRACT DOCUMENTS.

66. THESE PLANS DO NOT AUTHORIZE SITE DISTURBANCE BEYOND THE LIMITS OF GRADING OR IMPROVEMENTS SHOWN HEREON. CONTRACTOR SHALL OBTAIN PERMISSION TO ENTER UPON ADJOINING PROPERTY TO CONSTRUCT IMPROVEMENTS OR TO GRADE ELSEWHERE PRIOR TO COMMENCING WORK. THESE PLANS, THE AGENCY AND THE ENGINEER DO NOT AUTHORIZE ENTRY TO ANY PROPERTY NOT UNDER THE CONTROL/OWNERSHIP OF THE OWNER.

67. NO GRADING SHALL OCCUR WITHIN TWO (2) FEET OF THE PROPERTY LINES UNLESS NOTED OTHERWISE ON THESE PLANS. CONTRACTOR'S MEANS AND METHODS SHALL ACCOMMODATE THIS REQUIREMENT.

68. ALL CUT AND FILL SLOPES SHALL CONFORM TO THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEERING REPORT, BUILDING CODE, AND AGENCY REQUIREMENTS.

69. DESIGN GRADES DO NOT AUTHORIZE GRADING TO EXCEED THE MAXIMUM SLOPES SHOWN ON THIS PLAN, OR RECOMMENDED BY THE GEOTECHNICAL ENGINEERING REPORT, BUILDING CODE, OR AGENCY REQUIREMENTS. IN THE EVENT THAT SPOT ELEVATIONS SHOWN ON THIS PLAN RESULT IN SLOPES GREATER THAN ALLOWED IN THE ABOVE REFERENCED DOCUMENTS, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING BEFORE PROCEEDING.

70. GRADE STAKES (PLACED BY THE SURVEYOR) DO NOT AUTHORIZE GRADING TO EXCEED THE MAXIMUM SLOPES RECOMMENDED BY THE GEOTECHNICAL ENGINEERING REPORT, BUILDING CODE, OR AGENCY REQUIREMENTS. IN THE EVENT THAT GRADE STAKES (PLACED BY THE SURVEYOR) PROVIDED FOR CONSTRUCTION REPRESENT SLOPES GREATER THAN ALLOWED IN THE ABOVE REFERENCED "PROJECT RELATED DOCUMENTS", OR SHOWN ON THIS PLAN, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING BEFORE PROCEEDING.

71. SOILS TESTS AND COMPACTION TESTS SHALL BE DONE IN ACCORDANCE WITH THE AGENCY STANDARDS AND SPECIFICATIONS AND AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER OR AS INDICATED ON THIS PLAN.

72. PLACEMENT OF MATERIAL TO BE USED AS BACKFILL OR EMBANKMENT SHALL BE FREE OF OBJECTIONABLE MATERIAL SUCH AS TREES, STUMPS, ROOTS, LOGS OR OTHERWISE DELETERIOUS MATERIAL. THE ENGINEER OR THE GEOTECHNICAL ENGINEER MAY BE REQUIRED TO CERTIFY THE MATERIAL WHICH CONTRACTOR INTENDS TO USE.

73. AREAS TO RECEIVE FILL SHALL BE CLEARED OF ALL BRUSH AND OTHER OBJECTIONABLE DEBRIS, INCLUDING EXISTING ASPHALT PAVEMENT, AND PREPARED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER PRIOR TO PLACING OF FILL MATERIAL. IN THE EVENT THAT THE GEOTECHNICAL ENGINEERING REPORT LACKS SUFFICIENT INFORMATION, THE CONTACTOR SHALL APPLY TO THE GEOTECHNICAL ENGINEER FOR CLARIFICATION IN WRITING. CONTRACTOR SHALL NOT PROCEED UNTIL PROPER SPECIFICATIONS HAVE BEEN PROVIDED BY THE GEOTECHNICAL ENGINEER.

74. ALL UNSUITABLE SOIL, MATERIAL, ASPHALT, CONCRETE, RUBBISH AND DEBRIS RESULTING FROM GRADING OPERATIONS SHALL BE REMOVED FROM THE JOB SITE, TRANSPORTED TO A SUITABLE LOCATION AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE REGULATIONS.

UTILITY

75. ALL UTILITY COMPANIES MUST BE NOTIFIED PRIOR TO THE START OF CONSTRUCTION. IT IS CONTRACTOR'S RESPONSIBILITY TO MAKE THE PROPER NOTIFICATIONS.

76. UTILITIES AND IMPROVEMENTS THAT BECOME DAMAGED DURING THE COURSE OF CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE AGENCY AND/OR UTILITY COMPANY AT THE SOLE EXPENSE OF CONTRACTOR.

77. AN EFFORT HAS BEEN MADE TO DEFINE THE LOCATION OF UNDERGROUND FACILITIES BASED ON AVAILABLE RECORDS, HOWEVER THE LOCATION WHERE SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES AND OTHER UNDERGROUND STRUCTURES MAY NOT BE SHOWN ON THIS PLAN. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR LOCATING OR HAVING LOCATED ALL UNDERGROUND UTILITIES AND RELATED FACILITIES PRIOR TO COMMENCING CONSTRUCTION AND FOR PROTECTING SAME DURING THE COURSE OF CONSTRUCTION.

78. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, CONTRACTOR SHALL POTHOLE TO CONFIRM THE LOCATION, ELEVATION, SIZE, CONDITION AND MATERIAL OF ALL EXISTING UTILITY POINTS OF CONNECTION AND CROSSINGS. CONTRACTOR SHALL NOTIFY THE ENGINEER OF DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS PERTAINING TO MATERIALS, ELEVATIONS, LOCATIONS, AND ETC. PRIOR TO CONTINUING WORK.

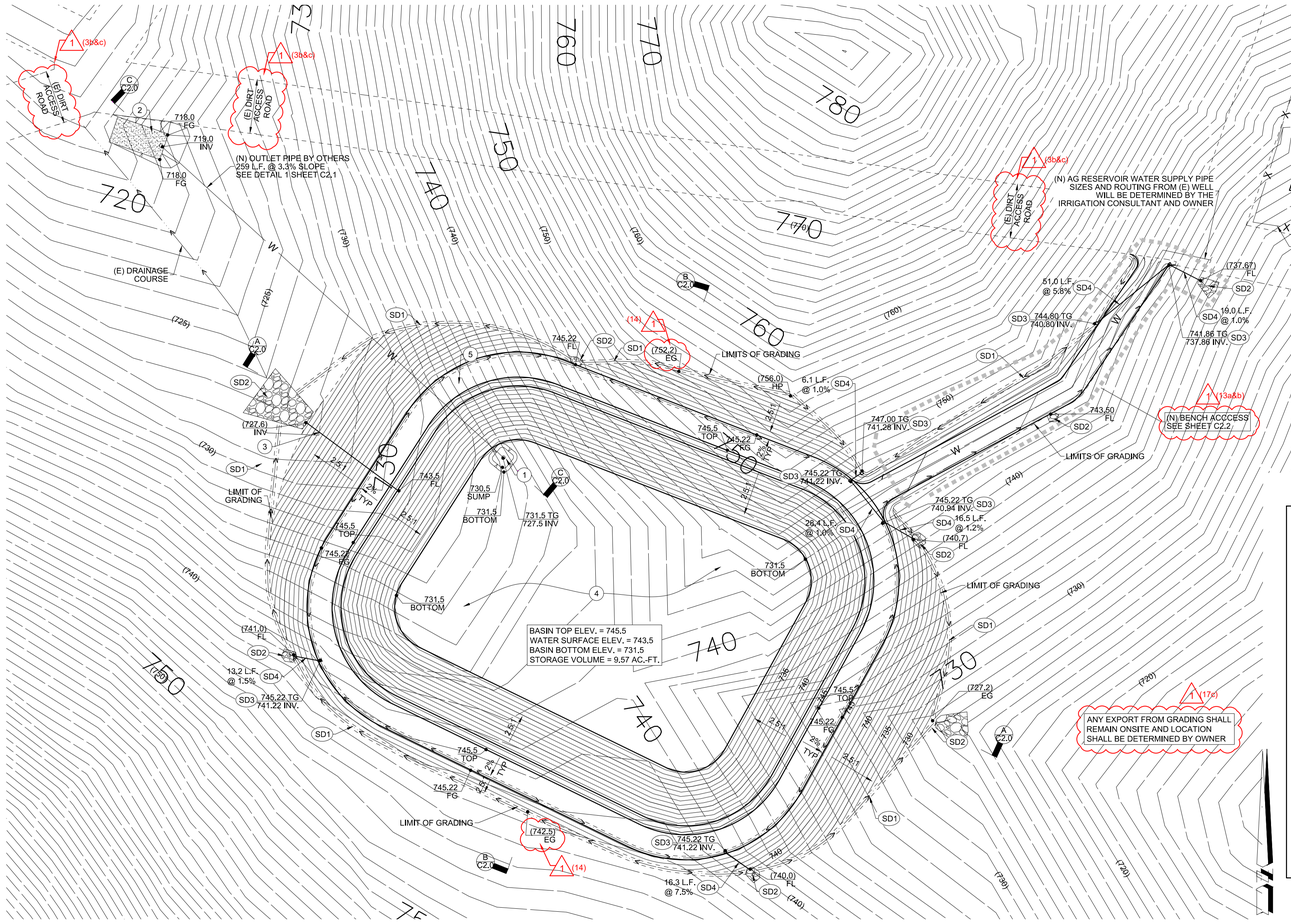
79. IT SHALL BE THE RESPONSIBILITY OF CONTRACTOR TO CONTACT "DIG ALERT" FOR LOCATION OF UNDERGROUND FACILITIES. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR CONTACTING THE RESPECTIVE UTILITY PROVIDERS FOR THE LOCATION OF ALL UNDERGROUND FACILITIES.

80. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WIRE AND GAS UTILITY TRENCHING AND CONDUIT PLACEMENT IN ACCORDANCE WITH HANDOUT PACKAGES PROVIDED BY THE RESPECTIVE UTILITY PROVIDERS. LOCATION OF WIRE AND GAS UTILITIES SHOWN ON THESE PLANS ARE SHOWN FOR REFERENCE ONLY AND SHALL NOT BE USED FOR CONSTRUCTION PURPOSES.

81. CONTRACTOR TO USE THE AGENCY'S CURRENT STANDARD PLANS AND SPECIFICATIONS FOR WATER, SEWER, AND STORM DRAIN FACILITIES. UNLESS OTHERWISE NOTED.

82. CONTRACTOR SHALL COORDINATE ANY WATER MAIN SHUT-DOWN WITH THE AGENCY AND/OR WATER PURVEYOR AND PROVIDE APPROPRIATE NOTIFICATION TO ALL PROPERTIES WITHIN AFFECTED AREA.

83. CONTRACTOR SHALL NOT INTERRUPT UTILITY SERVICE TO ANY OCCUPIED FACILITIES UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN



POND REPORT

TOP OF DAM ELEVATION: 745.5
WATER SURFACE ELEVATION: 743.5
BOTTOM OF POND ELEVATION: 731.5
LOWEST GRADE OUTSIDE OF DAM: 727.2
DAM HEIGHT: 18.3'
TOP OF DAM WIDTH: 14'
CUT SLOPE: 2.5:1
FILL SLOPE: 2.5:1
INTERIOR SLOPE: 2.5:1

EARTHWORK ESTIMATES

1 (19)

CUT	10,275 CUBIC YARDS
FILL	10,169 CUBIC YARDS (WITH 25% SHRINKAGE)
EXPORT	106 CUBIC YARDS

(P) RESERVOIR VOLUME: 9.57 ACRE-FEET
AREA OF DISTURBANCE: 1.75 ACRES

NOTE: TOPOGRAPHIC INFORMATION SHOWN PROVIDED BY DH SURVEY DATED 6/27/2019

POND STORAGE VOLUMES

ELEVATION	DEPTH (FT.)	SURFACE AREA (SQ. FT)	SURFACE AREA (ACRES)	CUMULATIVE VOLUME (CU. FT.)	CUMULATIVE VOLUME (ACRE FT.)
731.5	0	26,924.48	0.61	0	0
732.50	1.00	28,525.30	0.65	27,715.01	0.63
733.50	2.00	30,165.62	0.69	29,335.58	0.67
734.50	3.00	31,845.43	0.73	57,050.59	1.30
735.50	4.00	33,564.74	0.77	89,745.81	2.06
736.50	5.00	35,323.55	0.81	124,180.09	2.85
737.50	6.00	37,121.86	0.85	160,392.93	3.68
738.50	7.00	38,959.67	0.89	198,423.83	4.55
739.50	8.00	40,836.98	0.94	238,312.29	5.47
740.50	9.00	42,753.78	0.98	280,097.80	6.43
741.50	10.00	44,710.08	1.02	323,819.89	7.43
742.50	11.00	46,705.88	1.07	369,518.00	8.48
743.50	12.00	48,672.49	1.11	417,162.97	9.57

EMERGENCY OVERFLOW

1. AS SHOWN ON THIS SHEET, AN 18" PS36 PVC PIPE WILL PROVIDE MEANS FOR EMRGENCY OVERFLOW.
2. THE ONLY WATER INFLOW SOURCES ARE DIRECT RAINFALL AND THE SUPPLY PIPELINE. ALL SURFACE RUN OFF IS DIRECTED AWAY AND AROUND THE RESERVOIR.

PIPE SIZING:

24 HR RAINFALL EVENT => 5.25 IN/HR (17 IN/YR,ANNUAL)
RESERVOIR SUPPLY => 1600 GPM (MAX) = 3.56 CFS
RESERVOIR SURFACE AREA => 129,234.37 SF
PIPE SIZE (D) => 18" PVC
PIPE SLOPE (S) => 23/88' = 0.26
FRICTION COEFFICIENT (n) => 0.012 (PVC)

MANNING EQUATION:
D = [2.159 (Q)(n) / S^0.5]^0.375 WHERE Q = DESIGN FLOW (CFS) N = 0.012; S = 0.26

Q = 100 YR RAINFALL (Q1) + MAXIMUM PUMPING RATE (Q2)
Q1 = (5.25 IN/HR)(129,234.37 SF)(1 FT/12 IN)(1 HR/3600 SEC)
Q1= 15.7 CFS
Q2 = 3.56 CFS
Q = 15.7 + 3.56 + = 19.27 CFS

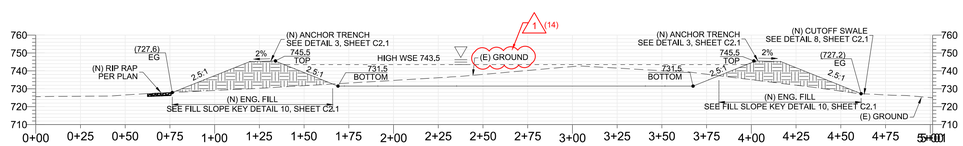
THUS, THE MINIMUM EMERGENCY PIPE DIAMETER NEEDED TO SAFELY CONVEY EMERGENCY FLOW CONDITIONS IS:

D = [2.159 (19.27) (0.012) / (0.26) * 0.5] *0.375
D = 1.44 FT = 17.28 IN (MIN)

SINCE THE 18" OVERFLOW PIPE IS GREATER THAN THE 17.28" MIN. NEEDED, THE 18" EMERGENCY OVERFLOW PIPE IS ADEQUATE.

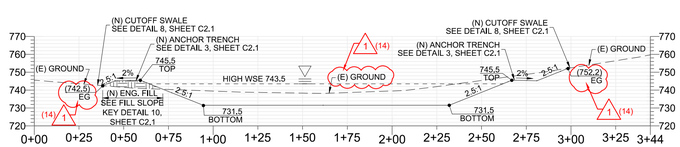
GRADING GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED VERSION AND AMENDMENTS OF THE CALIFORNIA BUILDING CODE. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE APPLICABLE CITY/COUNTY STANDARDS AND CALTRANS STANDARD SPECIFICATIONS, LATEST ADOPTED EDITION AND AMENDMENTS. IN THE EVENT THAT THERE IS A CONFLICT BETWEEN CODES, THE CONTRACTOR WILL NOTIFY THE CIVIL ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION. WORK SHALL BE DONE IN ACCORDANCE WITH THE FOLLOWING:
   1.1. CBC LATEST EDITION
   1.2. NRCS PRACTICES REFERENCE
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEARING AND DISPOSAL OF THE PROPOSED WORK AREA. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIAL LEGALLY AND IS RESPONSIBLE FOR COMPLYING WITH LOCAL RECYCLING ORDINANCES.
3. NO FILL SHALL BE PLACED ON THE EXISTING GROUND SURFACE UNTIL THE GROUND HAS BEEN CLEARED OF WEEDS, DEBRIS, TOPSOIL, DELETERIOUS MATERIAL AND SCARIFIED AND COMPACTED.
4. CUT AND FILL SLOPES SHALL BE NO STEEPER THAN 3:1 AND 2:1 (HORIZONTAL:VERTICAL) AS INDICATED ON THESE PLANS.
5. FILLS SHALL BE COMPACTED TO THE MINIMUM 95% PERCENTAGE OF MAXIMUM DRY DENSITY AS SPECIFIED.
6. ALL EXISTING FILLS SHALL BE APPROVED BEFORE ANY ADDITIONAL FILLS ARE ADDED.
7. ALL EXPOSED SLOPES SHALL BE PLANTED PER THE PROJECT EROSION SEDIMENT CONTROL PLANS AND IRRIGATED UNTIL GROUND COVER IS ESTABLISHED.
8. THE STOCKPILING OF EXCESS MATERIAL IS SUBJECT TO THE APPROVAL OF THE RCD.
9. ALL TRENCH BACKFILLS SHALL BE TESTED AND APPROVED.
10. ALL CUT SLOPES SHALL BE INVESTIGATED DURING GRADING TO DETERMINE IF ANY SLOPE STABILITY PROBLEMS EXIST. SHOULD EXCAVATION DISCLOSE ANY GEOTECHNICAL HAZARDS OR POTENTIAL GEOTECHNICAL HAZARDS A GEOTECHNICAL ENGINEER SHALL BE CONTACTED.
11. THE FINAL COMPACTION REPORT AND APPROVAL SHALL CONTAIN DETAILS REGARDING THE TYPE OF FIELD TESTING PERFORMED INCLUDING THE METHOD OF OBTAINING THE IN-PLACE DENSITY, WHETHER SAND CONE, NUCLEAR GAUGE, OR DRIVE RING SHALL BE NOTED FOR EACH TEST. SUFFICIENT MAXIMUM DENSITY DETERMINATIONS SHALL BE PERFORMED TO VERIFY THE ACCURACY OF THE MAXIMUM DENSITY CURVES USED BY THE FIELD TECHNICIAN.
12. SANITARY FACILITIES SHALL BE MAINTAINED ON SITE THROUGHOUT THE DURATION OF THE CONSTRUCTION.
13. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF AND PROTECT ALL EXISTING UTILITIES AND TO ENSURE THAT SERVICE IS NOT DISRUPTED TO EXISTING FACILITIES.
14. ALL EXISTING DRAINAGE COURSES ON THE PROJECT SITE MUST CONTINUE TO FUNCTION, ESPECIALLY DURING STORM CONDITIONS AND APPROVED PROTECTIVE MEASURE AND TEMPORARY DRAINAGE PROVISIONS MUST BE USED TO PROTECT EXISTING STRUCTURES AND ADJACENT PROPERTIES DURING THE CONSTRUCTION PROJECT. IN ALL CASES, THE CONTRACTOR AND/OR OWNER SHALL BE HELD LIABLE FOR ANY DAMAGE DUE TO OBSTRUCTING OR ALTERING EXISTING DRAINAGE PATTERNS.
15. EXPORTED MATERIAL SHALL BE TAKEN TO A LEGAL DUMP SITE OR PERMITTED RECEIVING SITE APPROVED BY THE LOCAL AGENCY HAVING JURISDICTION. 1 (17a)
16. ~~ANY DIRT, ROCK, DEBRIS OR CONSTRUCTION MATERIAL THAT IS TRACKED OR DROPPED WITHIN THE PUBLIC RIGHT OF WAY DURING THE TRANSPORTATION OF THAT MATERIAL OR EQUIPMENT ASSOCIATED WITH THE PROJECT SHALL BE CLEANED OR REMOVED DAILY.~~
17. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND OBTAINING REQUIRED PERMITS FROM THE DIVISION OF SAFETY AND HEALTH (OSHA)
18. CALIFORNIA AIR RESOURCES BOARD REGULATION RULE 403 AIR QUALITY CONTROL MUST BE IMPLEMENTED DURING CONSTRUCTION.
19. CONSTRUCTION ACTIVITIES SHALL OCCUR ONLY BETWEEN THE HOURS OF 7:00 AM AND 7:00 PM, MONDAY THROUGH FRIDAY BETWEEN THE HOURS OF 9:00 AM AND 6:00 PM SATURDAYS, UNLESS OTHERWISE AUTHORIZED BY THE OWNER AND COUNTY.
20. CONTRACTOR SHALL USE LOW EMISSIONS MOBILE CONSTRUCTION EQUIPMENT DURING ALL SITE PREPARATION, GRADING AND CONSTRUCTION ACTIVITIES.
21. CONTRACTOR SHALL MAINTAIN ALL CONSTRUCTION ENGINES TUNED CONSISTENT WITH MANUFACTURER'S SPECIFICATIONS DURING ALL SITE PREPARATION, GRADING AND CONSTRUCTION ACTIVITIES.
22. THE SPEED OF CONSTRUCTION VEHICLES ON-SITE SHALL BE LIMITED TO 15 MILE PER HOUR.
23. THE CONTRACTOR SHALL CONTROL DUST IN AREAS USED FOR OFF-PAVEMENT PARKING, MATERIAL LAY DOWN AREAS OR THOSE AWAITING FUTURE CONSTRUCTION.
24. CONTRACTOR SHALL IMPLEMENT THE FOLLOWING HIGH WIND DUST CONTROL MEASURES WHEN INSTANTANEOUS WIND SPEEDS EXCEED 25 MPH
   24.1. TERMINATION OF SCRAPES, GRADERS OR DOZERS ON UNPAVED SURFACES UNTIL WINDS SUBSIDE
   24.2. APPLICATION OF WATER AS NEEDED



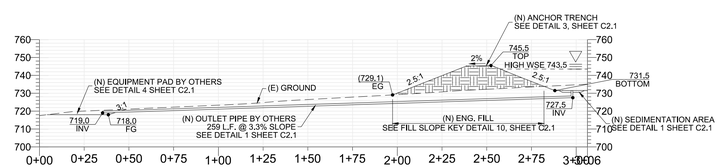
SECTION A-A

SCALE: 1" = 40'



SECTION B-B

SCALE: 1" = 40'



SECTION C-C

SCALE: 1" = 40'

CONSTRUCTION NOTES

1. CONSTRUCT 10' SEDIMENTATION AREA PER DETAIL 1, SHEET C2.1
2. CONSTRUCT 15' x 30' LEVEL PAD FOR IRRIGATION PUMP EQUIPMENT TO BE INSTALLED BY OTHERS (SEE DETAIL 4, SHEET C2.1)
3. INSTALL 65 L.F. OF 18" PS46 PVC EMERGENCY OVERFLOW PIPE WITH A MIN OF 12" COVER OVER PIPE, DAYLIGHT AT RIP-RAP FIELD AS SHOWN (SEE DETAIL 2, SHEET C2.1)
4. INSTALL 40-MIL HDPE LINER AND ANCHOR TRENCH IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS (SEE DETAIL 3, SHEET C2.1)
5. CONSTRUCT 14' WIDE BENCH PER DETAIL 3, SHEET C2.1

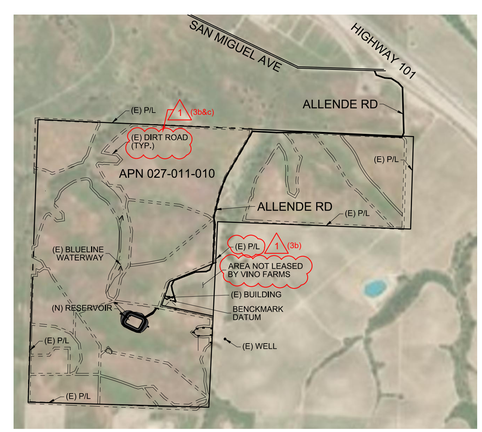
STORM DRAIN NOTES

SD1 CONSTRUCT 4' WIDE CUTOFF SWALE PER DETAIL 8, SHEET C2.1

SD2 FURNISH AND INSTALL RIP RAP FIELD 1.5' DEEP, #2 BACKING (SEE DETAIL 2, SHEET C2.1)

SD3 INSTALL 18" x 18" MID STATE CONCRETE STORM DRAIN CATCH BASIN PER DETAIL 7, SHEET C2.1

SD4 INSTALL 18" PVC STORM DRAIN PER MANUFACTURER'S RECOMMENDATIONS, LENGTH AND SLOPES PER PLAN.



OVERALL SITE PLAN

SCALE: NTS

DIGALERT
DIAL TOLL FREE
811 OR
(1-800-227-2600)
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF CALIFORNIA

MONSOON
P.O. BOX 151 SAN LUIS OBISPO, CA 93406
805-476-6168 PH. brieely@monsoonconsultants.com

REVISIONS		
Number	Date	Description
1	10/09/2020	Plan Check #1 Comments

Project Number: 2018.07.001

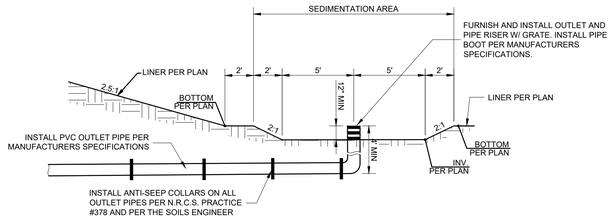
Project Location: APN 027-011-010 SLO COUNTY, CA

Sheet Title: GRADING PLAN

Owner / Applicant: VINO FARMS, LLC 1377 E. LODI AVE. LODI, CA 95240

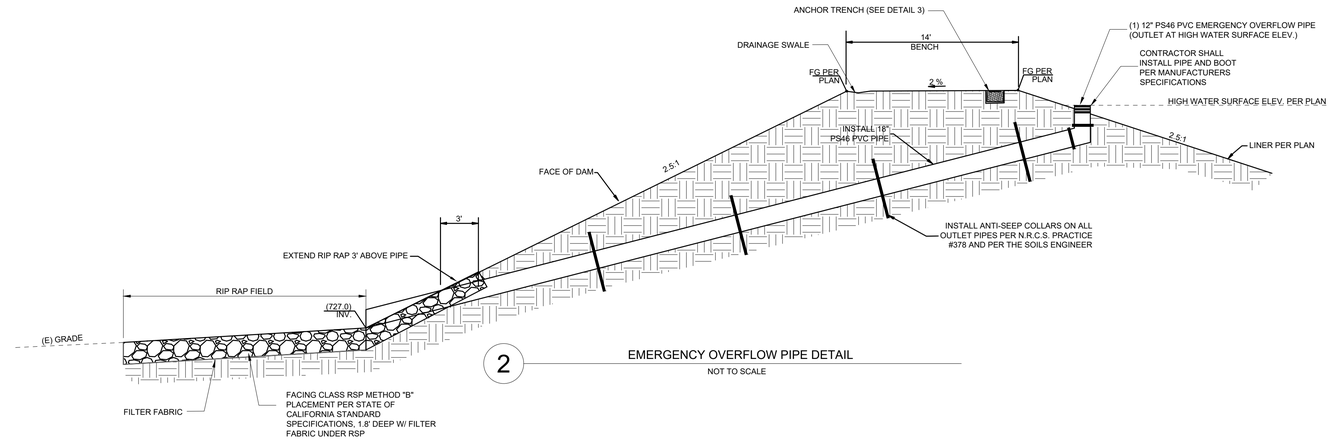
REGISTERED PROFESSIONAL ENGINEER BLAYNE T. RIEELY Lic. No. 46806 Expires 6/30/21 CIVIL STATE OF CALIFORNIA
10-09-2020

Date:	10-09-2020
Scale:	PER PLAN
Drawn by:	ARR
Checked by:	BTR
Sheet:	C2.0



1 SEDIMENTATION AREA DETAIL

NOT TO SCALE



2 EMERGENCY OVERFLOW PIPE DETAIL

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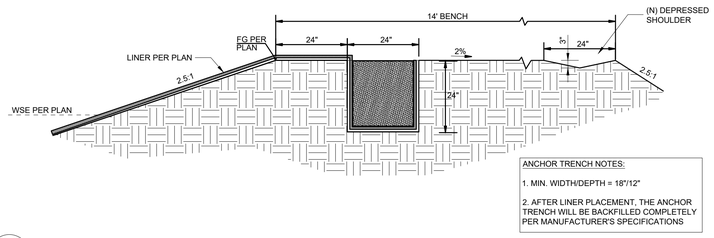
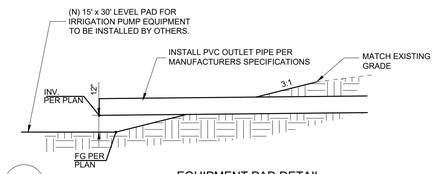


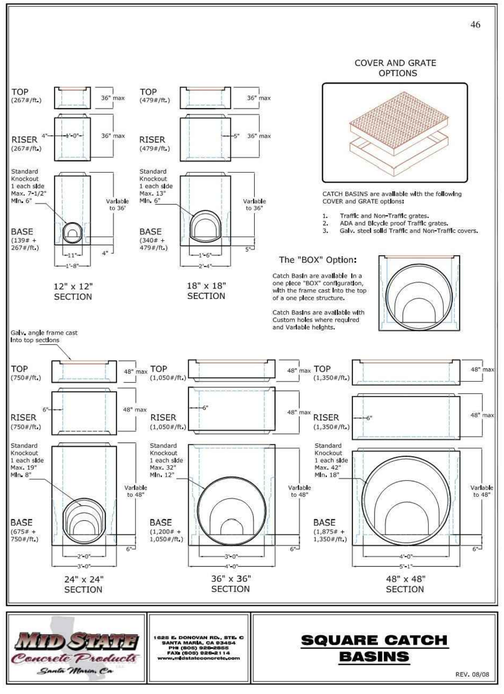
3 BENCH AND ANCHOR TRENCH DETAIL

NOT TO SCALE



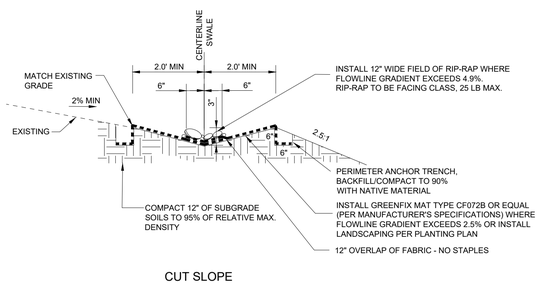
4 EQUIPMENT PAD DETAIL

1" = 10'

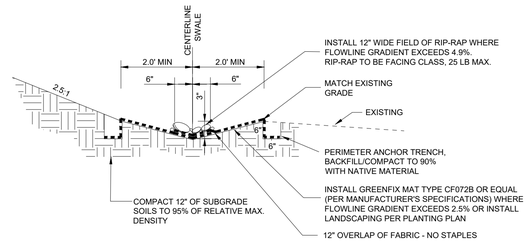


7 STORM DRAIN CATCH BASIN DETAIL

NOT TO SCALE



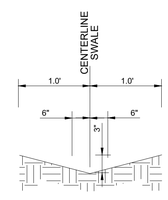
CUT SLOPE



FILL SLOPE

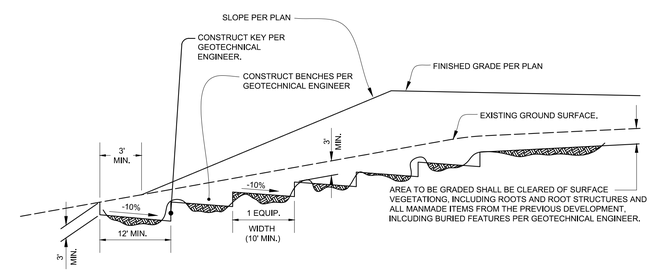
8 CUTOFF SWALE DETAIL

NOT TO SCALE



9 SWALE DETAIL

NOT TO SCALE



10 FILL SLOPE KEY DETAIL

NOT TO SCALE

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805-476-6168 PH. brieely@monsoonconsultants.com

REVISIONS

Number	Date	Description
1	10/09/2020	Plan Check 01 Comments

Project Number: 2018.07.001

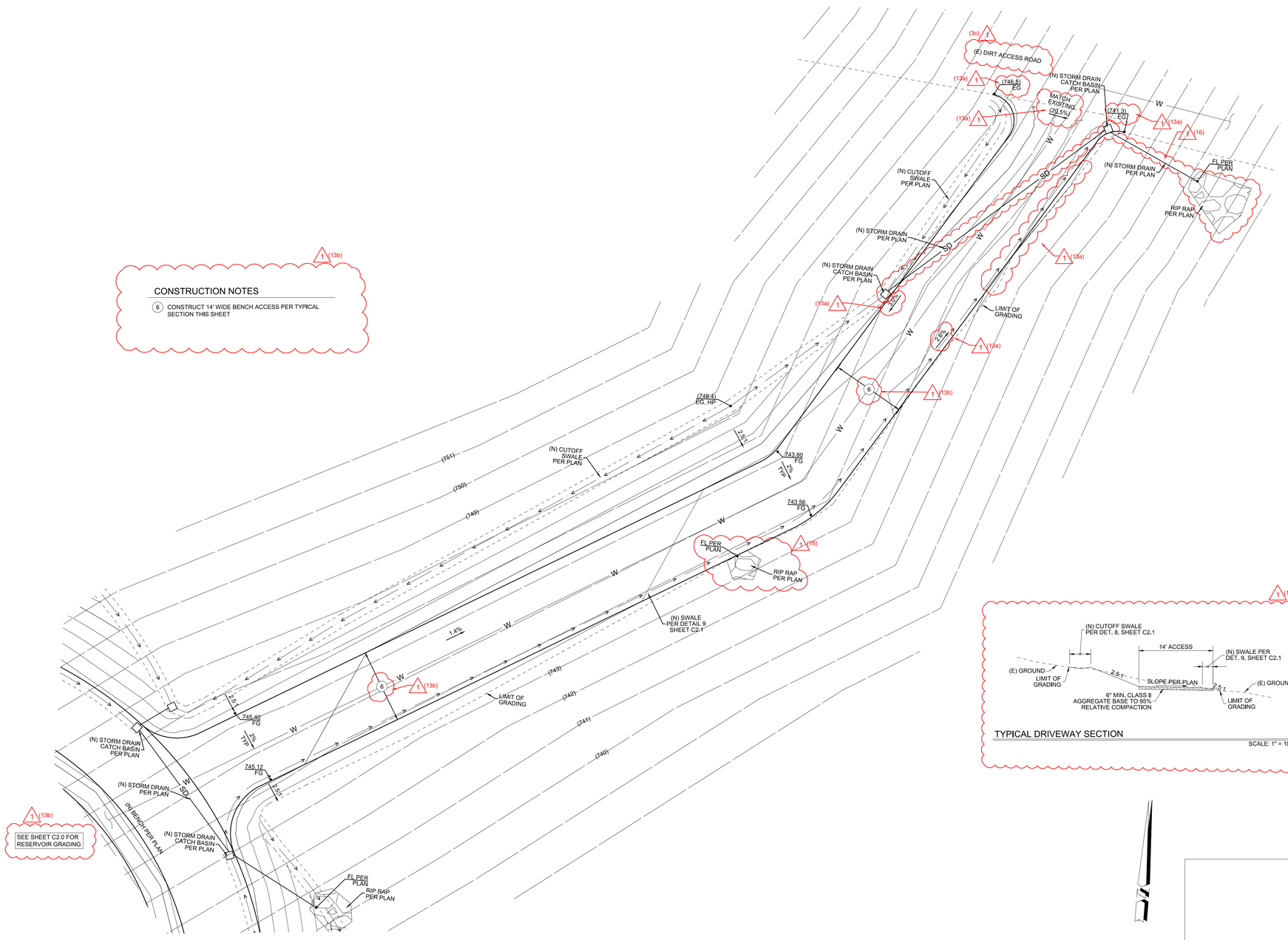
Project Location: APN 027-011-010 SLO COUNTY, CA

Sheet Title: DETAIL SHEET

Owner / Applicant: VINO FARMS, LLC 1377 E. LODI AVE. LODI, CA 95240

REGISTERED PROFESSIONAL ENGINEER BLAYNE T. REELY Lic. No. 46806 Expires 6/30/21 CIVIL STATE OF CALIFORNIA
10-09-2020

Date: 10-09-2020
Scale: PER PLAN
Drawn by: ARR
Checked by: BTR
Sheet: C2.1



BENCH ACCESS DETAIL

SCALE: 1" = 10'

MONSOON
P.O. BOX 151 SAN LUIS OBISPO, CA 93406
805-476-6168 PH: breely@monsoonconsultants.com

REVISIONS

Number	Date	Description
1	10/09/2020	Plan Check 01 Comments

Project Number: 2018.07.001

Project Location: APN 027-011-010 SLO COUNTY, CA

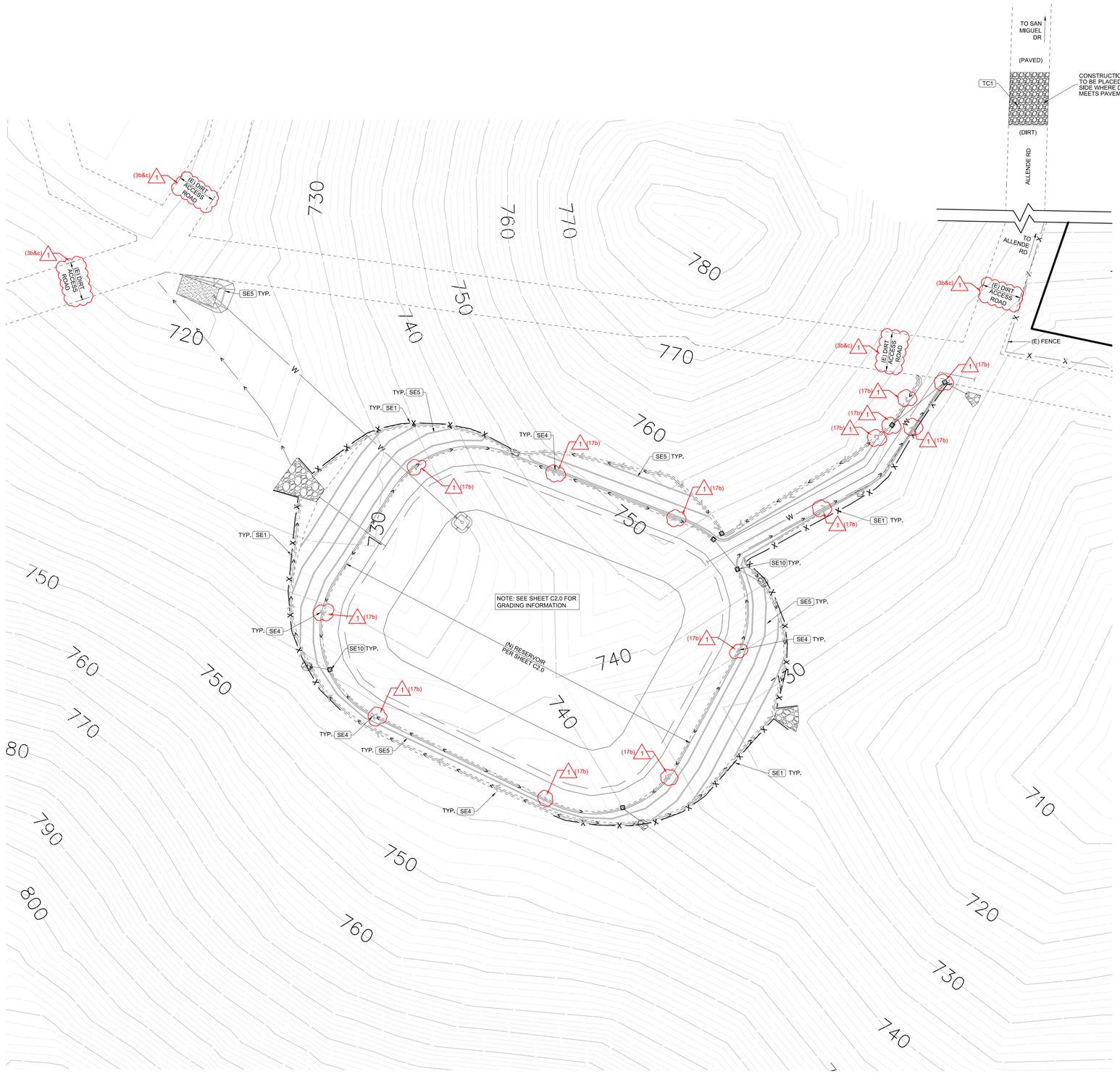
Sheet Title: DETAIL SHEET

Owner / Applicant: VINO FARMS, LLC 1377 E. LODI AVE. LODI, CA 95240

REGISTERED PROFESSIONAL ENGINEER BLAINE T. REELY Lic. No. 46806 Expires 6/30/21 CIVIL STATE OF CALIFORNIA

10-09-2020

Date:	10-09-2020
Scale:	PER PLAN
Drawn by:	ARR
Checked by:	BTR
Sheet:	C2.2



SAN LUIS OBISPO COUNTY
EROSION CONTROL NOTES - REQUIRED

1. EROSION CONTROL MEASURES FOR WIND, WATER, MATERIAL STOCKPILES, AND TRACKING SHALL BE IMPLEMENTED ON ALL PROJECTS AT ALL TIMES AND SHALL INCLUDE SOURCE CONTROL, INCLUDING PROTECTION OF STOCKPILES, PROTECTION OF SLOPES, PROTECTION OF ALL DISTURBED AREAS, PROTECTION OF ACCESSES, AND PERIMETER CONTAINMENT MEASURES. EROSION CONTROL SHALL BE PLACED PRIOR TO THE COMMENCEMENT OF GRADING AND SITE DISTURBANCE ACTIVITIES UNLESS THE PUBLIC WORKS DEPARTMENT DETERMINES TEMPORARY MEASURES TO BE UNNECESSARY BASED UPON LOCATION, SITE CHARACTERISTICS OR TIME OF YEAR. THE INTENT OF EROSION CONTROL MEASURES SHALL BE TO KEEP ALL GENERATED SEDIMENTS FROM ENTERING A SWALE, DRAINAGE WAY, WATERCOURSE, ATMOSPHERE, OR MIGRATE ONTO ADJACENT PROPERTIES OR ONTO THE PUBLIC RIGHT-OF-WAY.

2. SITE INSPECTIONS AND APPROPRIATE MAINTENANCE OF ALL EROSION CONTROL MEASURES/DEVICES SHALL BE CONDUCTED AND DOCUMENTED AT ALL TIMES DURING CONSTRUCTION AND ESPECIALLY PRIOR TO, DURING, AND AFTER RAIN EVENTS.

3. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE PLACEMENT AND MAINTENANCE OF ALL EROSION CONTROL MEASURES/DEVICES AS SPECIFIED BY THE APPROVED PLAN UNTIL SUCH TIME THAT THE PROJECT IS ACCEPTED AS COMPLETE BY THE COUNTY OR UNTIL RELEASED FROM THE CONDITIONS OF APPROVAL OF THEIR GENERAL PERMIT. EROSION CONTROL MEASURES/DEVICES MAY BE RELOCATED, DELETED OR ADDITIONAL MEASURES/DEVICES MAY BE REQUIRED DEPENDING ON THE ACTUAL CONDITIONS ENCOUNTERED DURING CONSTRUCTION. ADDITIONAL EROSION CONTROL MEASURES/DEVICES SHALL BE PLACED AT THE DISCRETION OF THE ENGINEER OF WORK, COUNTY INSPECTOR, SWPPP MONITOR, OR RWQCB INSPECTOR. GUIDELINES FOR DETERMINING APPROPRIATE EROSION CONTROL DEVICES SHALL BE INCLUDED IN THE PLANS WITH ADDITIONAL MEASURES/DEVICES NOTED FROM THE APPENDIX OF THE PUBLIC IMPROVEMENT STANDARDS.

4. EROSION CONTROL DEVICES SHALL BE THE FIRST ORDER OF WORK AND SHALL BE IN PLACE AT ALL TIMES DURING CONSTRUCTION. ADDITIONAL MEASURES/DEVICES SHALL BE AVAILABLE DURING THE RAINY SEASON (BETWEEN OCTOBER 15 AND APRIL 15) OR ANYTIME WHEN THE RAIN PROBABILITY EXCEEDS 30%. THESE MEASURES/DEVICES SHALL BE AVAILABLE, INSTALLED, AND/OR APPLIED AFTER EACH AREA IS GRADED AND NO LATER THAN FIVE (5) WORKING DAYS AFTER COMPLETION OF EACH AREA.

5. THE CONTRACTOR, DEVELOPER, AND ENGINEER OF WORK SHALL BE RESPONSIBLE TO REVIEW THE PROJECT SITE PRIOR TO OCTOBER 15 (RAINY SEASON) AND TO COORDINATE AN IMPLEMENTATION PLAN FOR WET WEATHER EROSION CONTROL DEVICES. A LOCALLY BASED STANDBY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (OCTOBER 15 THROUGH APRIL 15). NECESSARY MATERIALS SHALL BE AVAILABLE AND STOCK PILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OR MAINTENANCE OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.

6. IN THE EVENT OF A FAILURE, THE DEVELOPER AND/OR HIS REPRESENTATIVE SHALL BE RESPONSIBLE FOR CLEANUP AND ALL ASSOCIATED COSTS OR DAMAGE. IN THE EVENT THAT DAMAGE OCCURS WITHIN THE RIGHT-OF-WAY AND THE COUNTY IS REQUIRED TO PERFORM CLEANUP, THE OWNER SHALL BE RESPONSIBLE FOR COUNTY REIMBURSEMENT OF ALL ASSOCIATED COSTS OR DAMAGE.

7. IN THE EVENT OF FAILURE AND/OR LACK OF PERFORMANCE BY THE OWNER AND/OR CONTRACTOR TO CORRECT EROSION CONTROL RELATED PROBLEMS THE PUBLIC WORKS DEPARTMENT MAY REVOKE ALL ACTIVE PERMITS AND RECOMMEND THAT COUNTY CODE ENFORCEMENT PROVIDE A WRITTEN NOTICE OR STOP WORK ORDER IN ACCORDANCE WITH SECTION 22.52.140 [23.10] OF THE LAND USE ORDINANCE.

8. PERMANENT EROSION CONTROL SHALL BE PLACED AND ESTABLISHED WITH 90% COVERAGE ON ALL DISTURBED SURFACES OTHER THAN PAVED OR GRAVEL SURFACES, PRIOR TO FINAL INSPECTION. PERMANENT EROSION CONTROL SHALL BE FULLY ESTABLISHED PRIOR TO FINAL ACCEPTANCE. TEMPORARY EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL PERMANENT MEASURES ARE ESTABLISHED.

9. THE COUNTY AIR POLLUTION CONTROL DISTRICT (APCD) MAY HAVE ADDITIONAL PROJECT SPECIFIC EROSION CONTROL REQUIREMENTS. THE CONTRACTOR, DEVELOPER, AND ENGINEER OF WORK SHALL BE RESPONSIBLE FOR MAINTAINING SELF REGULATION OF THESE REQUIREMENTS.

10. ALL PROJECTS INVOLVING SITE DISTURBANCE OF ONE ACRE OR GREATER SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES). THE DEVELOPER SHALL SUBMIT A NOTICE OF INTENT (NOI) TO COMPLY WITH THE GENERAL PERMIT FOR CONSTRUCTION ACTIVITY WITH THE REGIONAL WATER QUALITY CONTROL BOARD (RWQCB). THE DEVELOPER SHALL PROVIDE THE COUNTY WITH THE WASTE DISCHARGE IDENTIFICATION NUMBER (WDID #) OR WITH VERIFICATION THAT AN EXEMPTION HAS BEEN GRANTED BY RWQCB. 1 (18)

> NOTE:
>
> SINCE THIS IS AGRICULTURAL GRADING, THE REGIONAL WATER QUALITY CONTROL BOARD HAS DETERMINED THAT ENROLLMENT IN THE STATE CONSTRUCTION GENERAL PERMIT IS NOT REQUIRED.

PERSON TO CONTACT 24 HOURS A DAY IN THE EVENT THERE IS AN EROSION CONTROL/SEDIMENTATION PROBLEM (STORM WATER COMPLIANCE OFFICER): EXEMPT - SEE ABOVE NOTE

11. PERSON TO CONTACT 24 HOURS A DAY IN THE EVENT THERE IS AN EROSION CONTROL/SEDIMENTATION PROBLEM:

NAME: TAVO ACOSTA
PHONE NO.: (805) 280-1051

EROSION CONTROL CONSTRUCTION NOTES

- SE1 INSTALL SILT FENCE (DETAIL SE-1, SHEET C3.1)
- SE4 CONSTRUCT CHECK DAM (FIBER ROLL) (DETAIL SE-4, SHEET C3.1)
- SE5 INSTALL FIBER ROLL (DETAIL SE-5, SHEET C3.1)
- SE10 CONSTRUCT INLET PROTECTION (DETAIL SE-10, SHEET C3.1)
- TC1 CONSTRUCT CONSTRUCTION ENTRANCE (DETAIL TC-1, SHEET C3.1)

LEGEND

—— X —— SILT FENCE

FIBER ROLL

SCALE: 1" = 40'

0 40 80 120 160

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REVISIONS

Number	Date	Description
1	10/09/2020	Plan Check 01 Comments

Project Number: 2018.07.001

Project Location: APN 027-011-010 SLO COUNTY, CA

Sheet Title: EROSION CONTROL PLAN

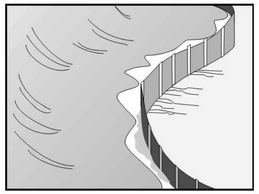
Owner / Applicant: VINO FARMS, LLC 1377 E. LODI AVE. LODI, CA 95240

REGISTERED PROFESSIONAL ENGINEER BLAYNE T. REELY Lic. No. 46806 Expires 6/30/21 CIVIL STATE OF CALIFORNIA

10-09-2020

Date:	10-09-2020
Scale:	PER PLAN
Drawn by:	ARR
Checked by:	BTR
Sheet:	C3.0

Silt Fence SE-1



Description and Purpose
A silt fence is made of a woven geotextile that has been entrenched, attached to supporting poles, and sometimes backed by a plastic or wire mesh for support. The silt fence detains sediment-laden water, promoting sedimentation behind the fence.

Suitable Applications
Silt fences are suitable for perimeter control, placed below areas where sheet flows discharge from the site. They could also be used as interior controls below disturbed areas where runoff may occur in the form of sheet and rill erosion and around inlets within disturbed areas (SE-10). Silt fences are generally ineffective in locations where the flow is concentrated and are only applicable for sheet or overland flows. Silt fences are most effective when used in combination with erosion controls. Suitable applications include:

- Along the perimeter of a project.
- Below the toe or down slope of exposed and erodible slopes.
- Along streams and channels.
- Around temporary spoil areas and stockpiles.
- Around inlets.
- Below other small cleared areas.

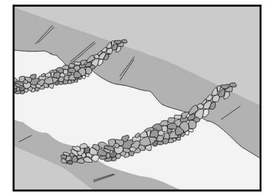
Categories
EC	Erosion Control	
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ Primary Category
☒ Secondary Category

Targeted Constituents
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives
SE-5 Fiber Rolls
SE-6 Gravel Bag Berm
SE-8 Sandbag Barrier
SE-10 Storm Drain Inlet Protection
SE-14 Biofilter Bags

Check Dams SE-4



Description and Purpose
A check dam is a small barrier constructed of rock, gravel bags, sandbags, fiber rolls, or other proprietary products, placed across a constructed swale or drainage ditch. Check dams reduce the effective slope of the channel, thereby reducing scour and channel erosion by reducing flow velocity and increasing residence time within the channel, allowing sediment to settle.

Suitable Applications
Check dams may be appropriate in the following situations:

- To promote sedimentation behind the dam.
- To prevent erosion by reducing the velocity of channel flow in small intermittent channels and temporary swales.
- In small open channels that drain 10 acres or less.
- In steep channels where stormwater runoff velocities exceed 5 ft/s.
- During the establishment of grass linings in drainage ditches or channels.
- In temporary ditches where the short length of service does not warrant establishment of erosion-resistant linings.
- To act as a grade control structure.

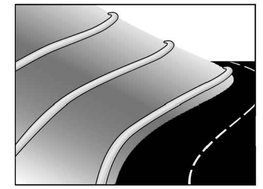
Categories
EC	Erosion Control	☒
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ Primary Category
☒ Secondary Category

Targeted Constituents
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives
SE-5 Fiber Rolls
SE-6 Gravel Bag Berm
SE-8 Sandbag Barrier
SE-14 Biofilter Bags

Fiber Rolls SE-5



Description and Purpose
A fiber roll consists of straw, coir, or other biodegradable materials bound into a tight tubular roll wrapped by netting, which can be photodegradable or natural. Additionally, gravel core fiber rolls are available, which contain an imbedded ballast material such as gravel or sand for additional weight when staking the rolls are not feasible (such as use as inlet protection). When fiber rolls are placed at the toe and on the face of slopes along the contours, they intercept runoff, reduce its flow velocity, release the runoff as sheet flow, and provide removal of sediment from the runoff (through sedimentation). By interrupting the length of a slope, fiber rolls can also reduce sheet and rill erosion until vegetation is established.

Suitable Applications
Fiber rolls may be suitable:

- Along the toe, top, face, and at grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow.
- At the end of a downward slope where it transitions to a steeper slope.
- Along the perimeter of a project.
- As check dams in unlined ditches with minimal grade.
- Down-slope of exposed soil areas.
- At operational storm drains as a form of inlet protection.

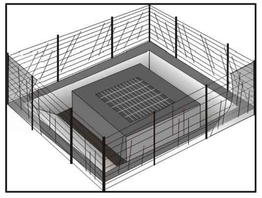
Categories
EC	Erosion Control	☒
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ Primary Category
☒ Secondary Category

Targeted Constituents
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives
SE-1 Silt Fence
SE-6 Gravel Bag Berm
SE-8 Sandbag Barrier
SE-14 Biofilter Bags

Storm Drain Inlet Protection SE-10



Description and Purpose
Storm drain inlet protection consists of a sediment filter or an impounding area in, around or upstream of a storm drain, drop inlet, or curb inlet. Storm drain inlet protection measures temporarily pond runoff before it enters the storm drain, allowing sediment to settle. Some filter configurations also remove sediment by filtering, but usually the ponding action results in the greatest sediment reduction. Temporary geotextile storm drain inserts attach underneath storm drain grates to capture and filter storm water.

Suitable Applications
Every storm drain inlet receiving runoff from unstabilized or otherwise active work areas should be protected. Inlet protection should be used in conjunction with other erosion and sediment controls to prevent sediment-laden stormwater and non-stormwater discharges from entering the storm drain system.

Limitations
- Drainage area should not exceed 1 acre.
- In general straw bales should not be used as inlet protection.
- Requires an adequate area for water to pond without encroaching into portions of the roadway subject to traffic.

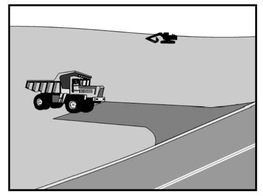
Categories
EC	Erosion Control	
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ Primary Category
☒ Secondary Category

Targeted Constituents
Sediment	☑
Nutrients	
Trash	☒
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives
SE-1 Silt Fence
SE-5 Fiber Rolls
SE-6 Gravel Bag Berm
SE-8 Sandbag Barrier
SE-14 Biofilter Bags

Stabilized Construction Entrance/Exit TC-1



Description and Purpose
A stabilized construction access is defined by a point of entrance/exit to a construction site that is stabilized to reduce the tracking of mud and dirt onto public roads by construction vehicles.

Suitable Applications
Use at construction sites:

- Where dirt or mud can be tracked onto public roads.
- Adjacent to water bodies.
- Where poor soils are encountered.
- Where dust is a problem during dry weather conditions.

Limitations
- Entrances and exits require periodic top dressing with additional stones.
- This BMP should be used in conjunction with street sweeping on adjacent public right of way.
- Entrances and exits should be constructed on level ground only.
- Stabilized construction entrances are rather expensive to construct and when a wash rack is included, a sediment trap of some kind must also be provided to collect wash water

Categories
EC	Erosion Control	☒
SE	Sediment Control	☒
TC	Tracking Control	☑
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ Primary Objective
☒ Secondary Objective

Targeted Constituents
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives
None

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P.O. BOX 151 SAN LUIS OBISPO, CA 93406
805-476-6168 PH: brieely@monsoonconsultants.com

REVISIONS

Number	Date	Description
1	10/09/2020	Plan Check 01 Comments

Project Number: 2018.07.001

Project Location: APN 027-011-010 SLO COUNTY, CA

Sheet Title: EROSION CONTROL DETAIL SHEET

Owner / Applicant: VINO FARMS, LLC 1377 E. LODI AVE. LODI, CA 95240

REGISTERED PROFESSIONAL ENGINEER BLAINE T. REELY Lic. No. 46806 Expires 6/30/21 CIVIL STATE OF CALIFORNIA
10-09-2020

Date: 10-09-2020
Scale: PER PLAN
Drawn by: ARR
Checked by: BTR
Sheet: C3.1

GEO SOLUTIONS

DATE:
October 14, 2020

PROJECT NUMBER:
SL08159-7

Client:
Vino Farms, Inc.
Attn: Tavo Acosta
PO Box 681
Los Alamos,
California
93440

Project name:
1 Allende Road
APN: 027-011-010
San Miguel area, San
Luis Obispo County,
California

GEOTECHNICAL PLAN REVIEW #1

Dear Vino Farms, Inc.:

This report presents the results of our geotechnical review of the project plans for the vineyard irrigation storage reservoir to be located at 1 Allende Road, APN: 027-011-010 in the San Miguel area of San Luis Obispo County, California. The purpose of our review was to evaluate the proposed plans with respect to geotechnical recommendations provided in the referenced report and with known site conditions. Our review was conducted for the sheets listed in Table 1 below.

Table 1: List of Sheets Reviewed

Title	Date	Sheet	Prepared By
Title Sheet	October 9, 2020	C1.0	Monsoon
General Notes	October 9, 2020	C1.1	Monsoon
Grading Plan	October 9, 2020	C2.0	Monsoon
Detail Sheet	October 9, 2020	C2.1	Monsoon
Detail Sheet	October 9, 2020	C2.2	Monsoon

It is our opinion that the proposed plans (as listed in Table 1) are in general conformance with the recommendations presented in the referenced report.

If subsequent changes are made to the reviewed plans, GeoSolutions, Inc. must be notified of said changes to verify continued compliance with the referenced report.

ADDITIONAL GEOTECHNICAL SERVICES

It is assumed that GeoSolutions, Inc. will be retained to perform construction inspections and testing as required including, but not limited to, stripping, grading, over-excavating, subdrain placement, compaction, retaining wall backfill placement, imported materials, helical pier installation, and foundation excavation.

LIMITATIONS

Our review was performed in accordance with the usual and current standards of the profession, as they relate to this or similar localities. No other warranty, expressed or implied, is made as to the conclusions and professional advice included in this plan review.

It should be noted that it is the responsibility of the owner or his/her representative to notify GeoSolutions, Inc. a minimum of 72 hours before any stripping, grading, or foundation excavations can commence at this site.

In addition to the construction inspections listed above, section 1705.6 of the 2019 (CBSC, 2019) requires the following inspections by the Soils Engineer for controlled fill thicknesses greater than 12 inches as shown in Table 2: Required Verification and Inspections of Soils:

220 High Street
San Luis Obispo CA 93401
805.543.8539

1021 Tama Lane, Suite 105
Santa Maria, CA 93455
805.614.6333

201 S. Milpas Street, Suite 103
Santa Barbara, CA 93103
805.966.2200

info@geosolutions.net

sbinfo@geosolutions.net

Table 2: Required Verification and Inspections of Soils

Verification and Inspection Task	Continuous During Task Listed	Periodically During Task Listed
1. Verify materials below footings are adequate to achieve the design bearing capacity.	-	X
2. Verify excavations are extended to proper depth and have reached proper material.	-	X
3. Perform classification and testing of controlled fill materials.	-	X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of controlled fill.	X	-
5. Prior to placement of controlled fill, observe sub-grade and verify that site has been prepared properly.	-	X

The recommendations of this review are based upon the assumption that the soil conditions do not deviate from those disclosed during the soil engineering study. Should any variations or undesirable conditions be encountered during the development of the Site, GeoSolutions, Inc. will provide supplemental recommendations as dictated by the field conditions.

This review is issued with the understanding that it is the responsibility of the owner or his/her representative to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project. The owner or his/her representative is responsible to ensure that the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

As of the present date, the findings of this review are valid for the property studied. With the passage of time, changes in the conditions of a property can occur whether due to natural processes or to the works of man on this or adjacent properties. Therefore, this review should not be relied upon after a period of one year without our subsequent review nor should it be used or is it applicable for any properties other than those studied. However many events such as floods, earthquakes, grading of the adjacent properties and building and municipal code changes could render this review invalid in less than a year.

Thank you for the opportunity to have been of service in preparing this report. If you have any questions or require additional assistance, please feel free to contact the undersigned at (805) 543-8539.

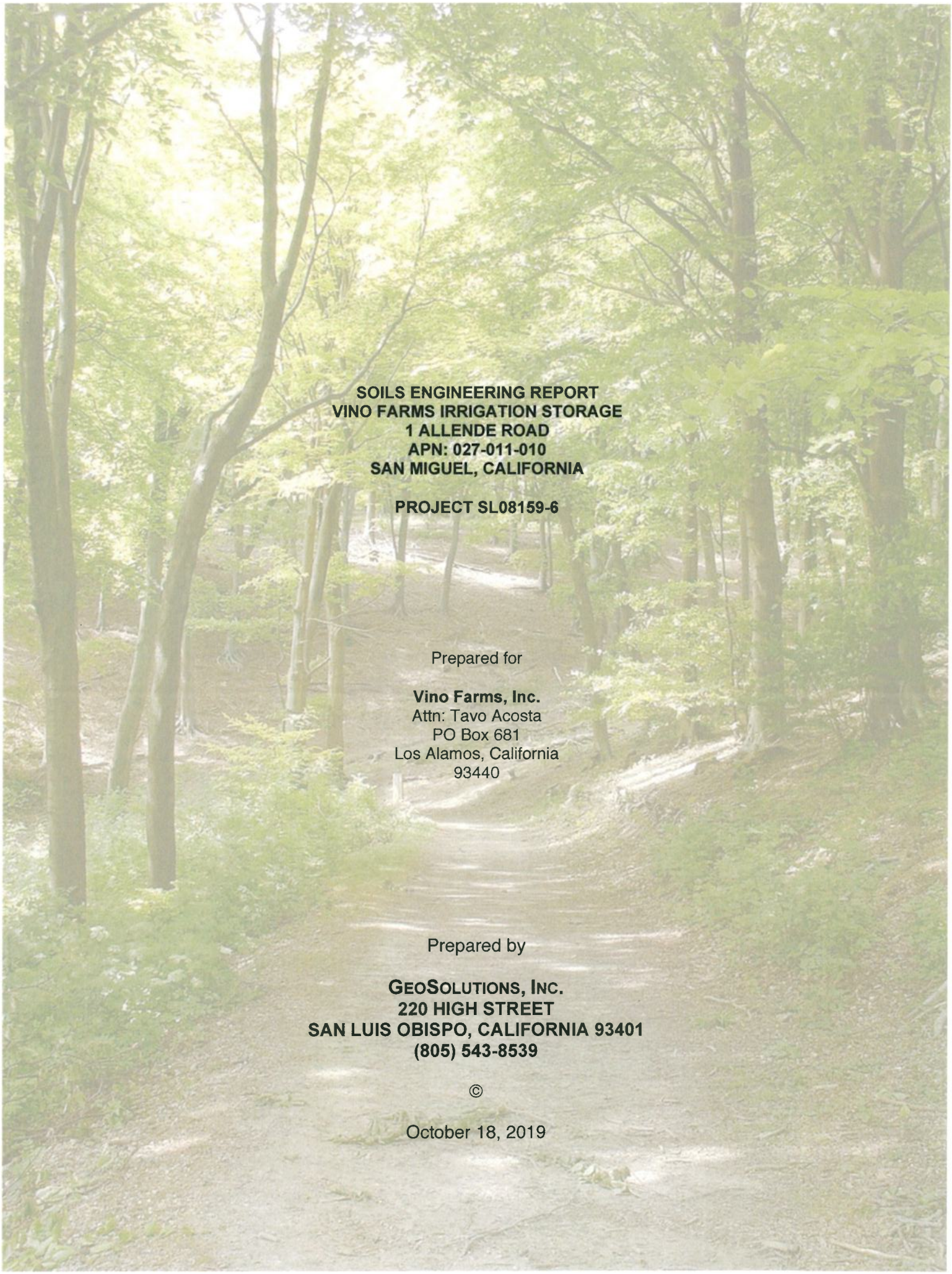
Sincerely,
GeoSolutions, Inc.

REGISTERED PROFESSIONAL ENGINEER
KRAIG ROBERT CROZIER
No. C61361
CIVIL
STATE OF CALIFORNIA

Kraig R. Crozier, PE
Principal, C61361

\\Nas-c1-df-18\S\SL08000-SL08499\SL08159-7 - Vino AG Reservoir\Construction\SL08159-7 - Vino Farms 1 Allende Rd Ag Res Plan Review 1.doc

Reference: Soils Engineering Report, 1 Allende Road, APN: 027-011-010, San Miguel area, San Luis Obispo County, California, by GeoSolutions, Inc., Project SL08159-6, dated October 18, 2019.



SOILS ENGINEERING REPORT
VINO FARMS IRRIGATION STORAGE
1 ALLENDE ROAD
APN: 027-011-010
SAN MIGUEL, CALIFORNIA

PROJECT SL08159-6

Prepared for

Vino Farms, Inc.
Attn: Tavo Acosta
PO Box 681
Los Alamos, California
93440

Prepared by

GEOSOLUTIONS, INC.
220 HIGH STREET
SAN LUIS OBISPO, CALIFORNIA 93401
(805) 543-8539

©

October 18, 2019

October 18, 2019
SL08159-6

Client:
Vino Farms, Inc.
Attn: Tavo Acosta
PO Box 681
Los Alamos, California
93440

Project name:
1 Allende Road
APN: 027-011-010
San Miguel area, San Luis Obispo County, California

SOILS ENGINEERING REPORT

Dear Vino Farms, Inc.:

This Soils Engineering Report has been prepared for the proposed vineyard irrigation storage reservoir to be located at 1 Allende Road, APN: 027-011-010 in the San Miguel area of San Luis Obispo County, California. This report characterizes the sub-surface conditions at the site to provide the enclosed geotechnical recommendations for design in accordance with the County of San Luis Obispo, the 2016 California Building Code, and Natural Resource Conservation Service (NRCS) standards.

Thank you for the opportunity to have been of service in preparing this report. If you have any questions or require additional assistance, please feel free to contact the undersigned at (805) 543-8539.

Sincerely,
GeoSolutions, Inc.

REGISTERED PROFESSIONAL ENGINEER
KRAIG ROBERT CROZIER
No. C61361
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SOILS ENGINEERING REPORT
VINO FARMS IRRIGATION STORAGE
1 ALLENDE ROAD
APN: 024-011-010
SAN MIGUEL, CALIFORNIA
PROJECT SL08159-6

1.0 INTRODUCTION

This report presents the results of the geotechnical investigation for the proposed vineyard irrigation storage reservoir to be located at 1 Allende Road, APN: 027-011-010 in the San Miguel area of San Luis Obispo County, California. See Figure 1: Site Location Map for the general location of the project area. Figure 1: Site Location Map was obtained from the computer program *GIS Surfer 1.8* (Elfelt, 2016).

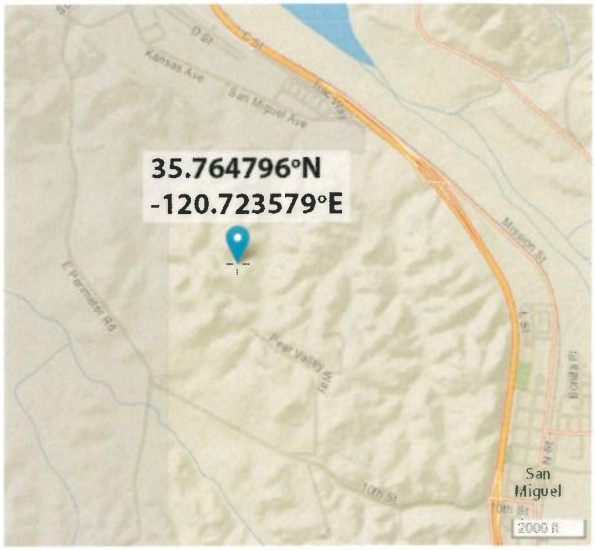

Figure 1: Site Location Map

1.1 Site Description

1 Allende Road is located at 35.7648 degrees north latitude and 120.7236 degrees west longitude at a general elevation of 720 feet above mean sea level. The property is approximately rectangular in shape and 309 acres in size. The nearest intersection is where Allende Road intersects San Miguel Avenue approximately 3,700 feet to the northeast of the property. The project property will hereafter be referred to as the "Site." See Figure 2: Site Plan for the general layout of the Site.

The property is situated in rolling terrain. The proposed location of the reservoir sits on a slight gradient which slopes downward to the north. Surface drainage follows the topography and flows north from the reservoir. An existing structure exists just northeast of the proposed reservoir footprint and is to remain.

1.2 Project Description

The proposed irrigation reservoir is anticipated to have a storage volume of roughly 33 acre-feet, a water depth of 14 feet, a dam height of less than 25 feet, internal and external slopes of approximately 2.5:1 (horizontal to vertical), with a geosynthetic liner on the surface.

2.0 PURPOSE AND SCOPE

The purpose of this study was to explore and evaluate the surface and sub-surface soil conditions at the Site and to develop geotechnical information and design criteria. The scope of this study includes the following items:

1. A literature review of available published and unpublished geotechnical data pertinent to the project site including geologic maps, and available on-line or in-house aerial photographs.

2. A field study consisting of site reconnaissance and subsurface exploration including exploratory borings in order to formulate a description of the sub-surface conditions at the Site.

3. Laboratory testing performed on representative soil samples that were collected during our field study.

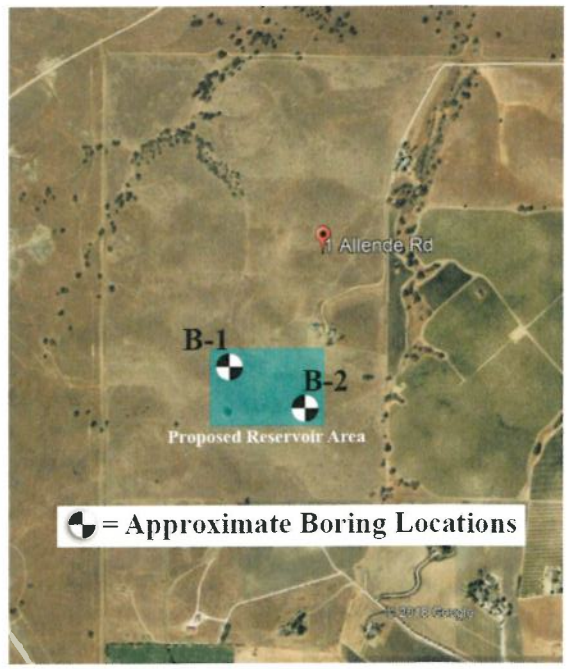

Figure 2: Site Plan

4. Engineering analysis of the data gathered during our literature review, field study, and laboratory testing.

5. Development of recommendations for site preparation and grading as well as geotechnical design criteria for building foundations, retaining walls, pavement sections, underground utilities, and drainage facilities.

3.0 FIELD AND LABORATORY INVESTIGATION

The field investigation was conducted on September 10, 2019 using a Mobile B-24 drill rig. Two six-inch diameter exploratory borings were advanced to a maximum depth of 10 feet below ground surface (bgs) at the approximate locations indicated on Figure 3: Google Earth Image. Sampling methods included the Standard Penetration Test utilizing a standard split-spoon sampler (SPT) without liners and a Modified California sampler (CA) with liners. The Mobile B-24 drill rig was equipped with a safety hammer, which has an efficiency of approximately 60 percent and was used to obtain test blow counts in the form of N-values.

Data gathered during the field investigation suggest that the soil materials at the Site consist of alluvial soils overlying competent formational material. The surface material at the Site generally consisted of grayish brown sandy CLAY (CL) encountered in a dry condition to approximately 4.0 to 4.5 feet bgs. The sub-surface materials consisted of dark yellowish-brown sandy CLAY (CL) with gravels encountered in a slightly moist condition underlain by light yellowish-brown sandy CLAY (CL) with gravels encountered in a dry and hard condition.

Regional site geology was obtained from United States Geological Survey MapView internet application (USGS, 2013) which compiles existing geologic maps. Figure 4: Regional Geologic Map presents the geologic conditions in site vicinity as mapped on the *Geologic Map of the San Miguel Quadrangle* (Dibblee, 2006). The majority of all underlying material at the Site was interpreted as Paso Robles Formation.

Groundwater was not encountered in either of the borings. It should be expected that groundwater elevations may vary seasonally and with irrigation practices.

Figure 3: Google Earth Image

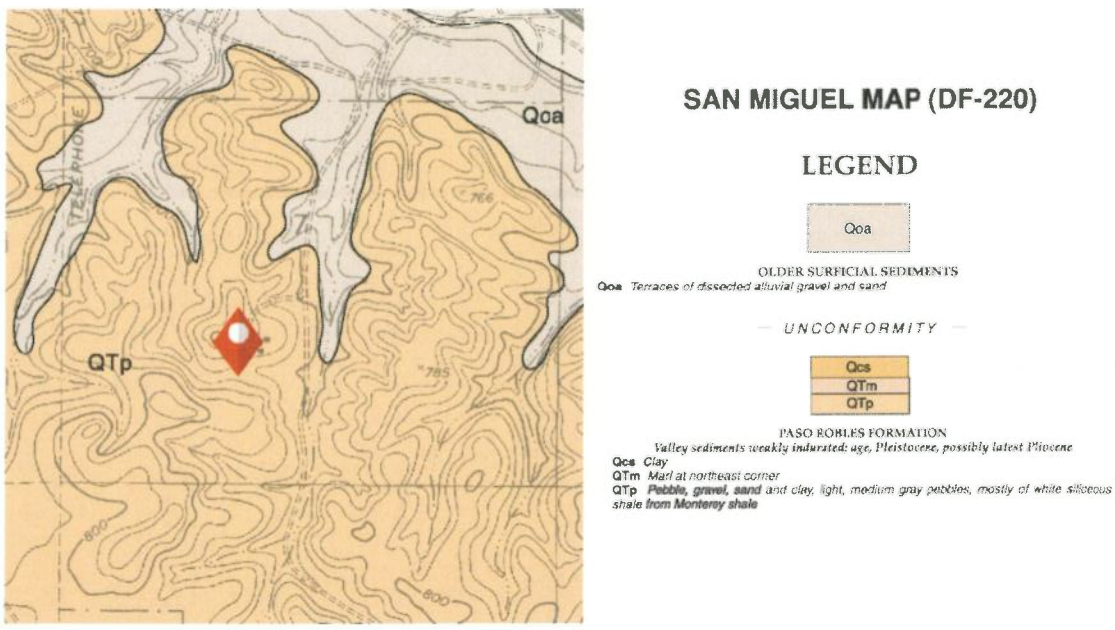

Figure 4: Regional Geologic Map

During the boring operations the soils encountered were continuously examined, visually classified, and sampled for general laboratory testing. A project engineer has reviewed a continuous log of the soils encountered at the time of field investigation. See **Appendix A** for the Boring Logs from the field investigation.

Laboratory tests were performed on soil samples that were obtained from the Site during the field investigation. The results of these tests are listed below in Table 1: Engineering Properties. Laboratory data reports and detailed explanations of the laboratory tests performed during this investigation are provided in **Appendix B**.

Table 1: Engineering Properties

Sample Name	Sample Description	USCS Specification	Expansion Index	Expansion Potential	Maximum Dry Density, γ_d (pcf)	Optimum Moisture (%)	Angle of Internal Friction, ϕ (deg.)	Cohesion, c (psf)	Plasticity Index	Fines Content (%)
A	Very Dark Grayish Brown Sandy Lean CLAY	CL	37	Low	125.9	8.3	30.6	40	20 Med.	54.2

4.0 SEISMIC DESIGN CONSIDERATIONS

Estimating the design ground motions at the Site depends on many factors including the distance from the Site to known active faults; the expected magnitude and rate of recurrence of seismic events produced on such faults; the source-to-site ground motion attenuation characteristics; and the Site soil profile characteristics. According to section 1613 of the 2016 CBC (CBSC, 2016), all structures and portions of structures should be designed to resist the effects of seismic loadings caused by earthquake ground motions in accordance with the *ASCE 7: Minimum Design Loads for Buildings and Other Structures*, hereafter referred to as ASCE7-10 (ASCE, 2013). The Site soil profile classification (Site Class) can be determined by the average soil properties in the upper 100 feet of the Site profile and the criteria provided in Table 20.3-1 of ASCE7-10.

Spectral response accelerations, peak ground accelerations, and site coefficients provided in this report were obtained using the computer-based Seismic Design Maps tool available from the Structural Engineers Association of California (SEAOC, 2018). This program utilizes the methods developed in ASCE 7-10 in conjunction with user-inputted Site location to calculate seismic design parameters and response spectra (both for period and displacement) for soil profile Site Classes A through E.

Site coordinates of **35.7648** degrees north latitude and **-120.7236** degrees east longitude were used in the web-based probabilistic seismic hazard analysis (SEAOC, 2018). Based on the results from the in-situ tests performed during the field investigation, the Site was defined as **Site Class D**, "Stiff Soil" profile per ASCE7-10, Chapter 20. Relevant seismic design parameters obtained from the program area summarized in Table 2: Seismic Design Parameters Refer to **Appendix C** for more information regarding the seismic hazard analysis performed for the project and detailed results.

Table 2: Seismic Design Parameters

Site Class	**D – "Stiff Soil"**
Seismic Design Category	**D**
1-Second Period Design Spectral Response Acceleration, S_{D1}	**0.533g**
Short-Period Design Spectral Response Acceleration, S_{DS}	**0.99g**
Site Specific MCE Peak Ground Acceleration, PGA_M	**0.534g**

5.0 LIQUEFACTION HAZARD ASSESSMENT

Liquefaction occurs when saturated cohesionless soils lose shear strength due to earthquake shaking. Ground motion from an earthquake may induce cyclic reversals of shear stresses of large amplitude.

Lateral and vertical movement of the soil mass combined with the loss of bearing strength can result from this phenomenon. Liquefaction potential of soil deposits during earthquake activity depends on soil type, void ratio, groundwater conditions, the duration of shaking, and confining pressures on the potentially liquefiable soil unit. Fine, poorly graded loose sand, shallow groundwater, high intensity earthquakes, and long duration of ground shaking are the principal factors leading to liquefaction.

Based on the consistency and relative density of the in-situ soils the potential for seismic liquefaction of soils at the Site is low. Assuming that the recommendations of the Soils Engineering Report are implemented, the potential for seismically induced settlement and differential settlement at the Site is considered to be low.

6.0 NUMERICAL SLOPE STABILITY ANALYSIS

A slope stability analysis was performed on the critical slopes at the maximum slope locations. Utilizing the results of laboratory testing performed on representative samples of soil material from the slope area, the numerical slope stability analysis was performed utilizing SLOPE/W, a computer-modeling program by Geo-Slope International, Limited (Geo-Slope, 2002). SLOPE/W is a computer software program that uses limit equilibrium theory to compute the factor of safety of earth slopes. The engineering standard for permanent slopes is a factor of safety of 1.5 and 1.1 for pseudo-static (seismic) conditions. A factor of safety less than unity (1.0) is considered unstable.

The numerical slope stability analysis was conducted for the site utilizing subsurface information derived from exploratory borings. The slope stability analysis was conducted to ascertain stability of the subsurface materials. Section A-A traverses through the proposed reservoir (see Plate 1). The elevations used to perform the analysis were produced by Monsoon, dated September 17, 2019.

6.1 Slope/W Discussion

SLOPE/W was utilized to determine the critical factor of safety. SLOPE/W performs the stability analysis by passing a slip surface through the earth mass and dividing it into vertical slices. To compute the factor of safety, SLOPE/W utilizes the theory of limit equilibrium of forces and moments. The limit equilibrium method may be utilized to analyze circular and noncircular failure surfaces and assumes that:

1. The soil behaves as a Mohr-Coulomb material.
2. The factor of safety of the cohesive component of strength and the frictional component of strength are equal for all soils involved.
3. The factor of safety is the same for all slices.

The General Limit Equilibrium formulation and solution may be used to simulate most of the commonly used methods of slices. The characteristics of Spencer's method are identified as an "satisfies all conditions of equilibrium; applicable to any shape of slip surface; assumes that inclinations of side forces are the same for every slice; side force inclination is calculated in the process of solution so that all conditions of equilibrium are satisfied; accurate method; 3N equations and unknowns" (Duncan, 1996).

Each potential slip surface results in a different value for factor of safety. The smaller the factor of safety (the smaller the ratio of shear strength to shear stress required for equilibrium), the greater the potential for failure to occur by movement on that surface. Movement is most likely to occur on the slip surface with the minimum factor of safety. This is referred to as the critical slip surface. However, for movement to occur the ratio must be below 1.0.

6.2 Laboratory Test Results

Direct shear tests were performed on soil samples from the subsurface investigation. The purpose of this data was to determine the soil resistance to deformation (shear strength), interparticle attraction (cohesion), and resistance to inter-particle slip (angle of internal friction). Angle of internal friction and cohesion values were utilized from laboratory test results. The boring logs present the location that samples were collected and laboratory results are attached at the end of this report.

Moisture density relation curves, developed in accordance with ASTM D1557-91, five-layer method, were performed on representative samples obtained from the slope area. The purpose of the relation curve is to determine the maximum density and optimum moisture contents, as well as evaluate the stability of the soils. The laboratory sheets depict the dry unit weight of soil and have been converted to the unit weight (γ) for use in the stability analysis.

6.3 Discussion Of Modeling Conditions

Modeling conditions for the following slopes included:

Section A-A' - The proposed embankment slopes through the reservoir consist of proposed 2.5:1 (horizontal:vertical) fill slopes to a maximum height of 25 feet. Groundwater was not modeled due to a lack of groundwater observed within the subsurface investigation.

6.4 Static Slope Stability Analysis

Our analysis resulted in a range of values for factor of safety and their respective slip surfaces. The lowest factor of safety value corresponds to the critical slip surface. This critical slip surface does not necessarily result in the largest slip surface. The critical static factors of safety values are presented in Table 3: Factors of Safety Results. The potential critical slip surfaces for static conditions are presented on Figure 5: Section A-A – West Slope (Static) and Figure 7: Section A-A – East Slope (Static).

Table 3: Factors of Safety **Results**

Section	Static Factor of Safety	Pseudo-Static Factor of Safety
A-A (west fill slope)	1.82	1.24
A-A (east fill slope)	1.59	1.11

The static stability analyses performed for the slope configurations as illustrated in Section A-A. The minimum engineering standard for static factors of safety is 1.5. **Section A-A resulted in critical static factor of safety values above the minimum standard, indicating gross stable conditions. Recommendations for the improvement of the roadway is provided below.**

6.5 Pseudo-Static Slope Stability Analysis

As the slope may be affected by seismic events, a dynamic loading condition was applied to the slope model (pseudo-static conditions). As stated in *Guidelines for Evaluating and Mitigating Seismic Hazards in California* (CDMG, 1997), "In California, many state and local agencies, on the basis of local experience, require the use of a seismic coefficient of 0.15, and a minimum computed pseudo-static factor of safety of 1.0 to 1.2 for analysis of natural, cut, and fill slopes. Basic guidelines for making preliminary evaluations of embankments to ensure acceptable performance were: using a pseudo-static coefficient of 0.10 for magnitude 6.5 earthquakes and 0.15 for magnitude 8.25 earthquakes, with an acceptable factor of safety of the order of 1.15." Calculations for pseudo-static numerical analysis within these iterations utilized a seismic coefficient of 0.15 g.

The numerical slope stability analysis resulted in a range of values for factor of safety. The lowest factor of safety value corresponds to the critical slip surface. This critical slip surface does not necessarily result in the largest slip surface. The critical static factors of safety values are presented in Table 3: Factors of Safety Results. The potential critical slip surfaces for pseudo-static conditions are presented on Figure 6: Section A-A – West Slope (Pseudo-Static) and Figure 8: Section A-A – East Slope (Pseudo-Static)

The pseudo-static (seismic) stability analyses performed for the slope configurations as illustrated in Section A-A. The minimum engineering standard for pseudo-static factors of safety is 1.1. **Section A-A resulted in critical static factor of safety values above the minimum standard, indicating gross stable conditions.**

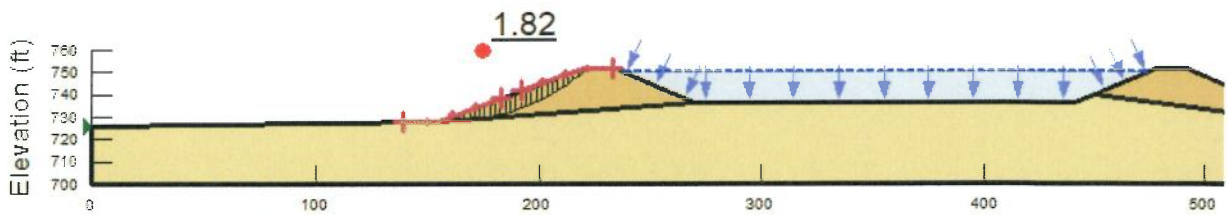

Figure 5: Section A-A – West Slope (Static)

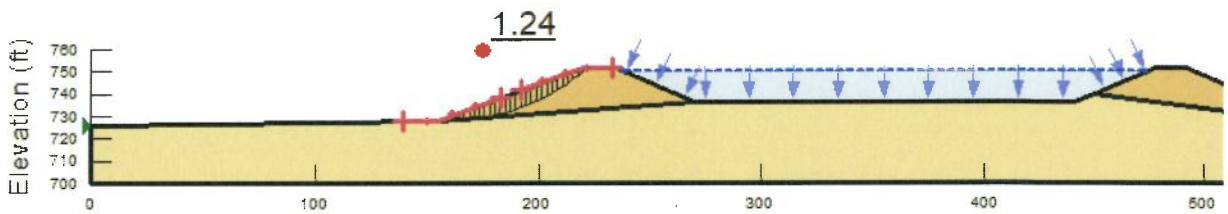

Figure 6: Section A-A – West Slope (Pseudo-Static)

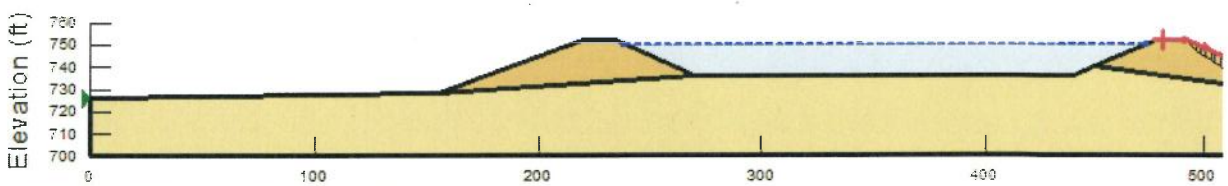

Figure 7: Section A-A – East Slope (Static)

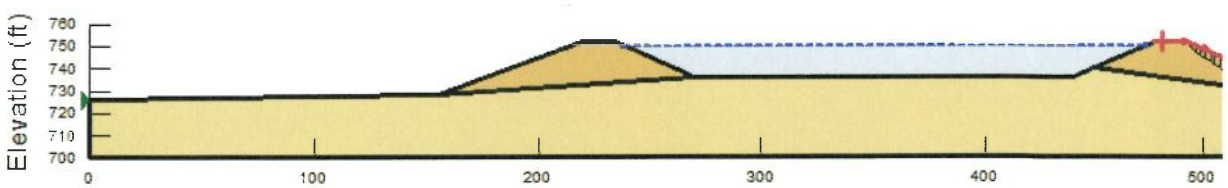

Figure 8: Section A-A – East Slope (Pseudo-Static)

7.0 GENERAL SOIL-FOUNDATION DISCUSSION

It is anticipated that graded fill slopes will be constructed for the proposed irrigation storage utilizing native soils as engineered fill. Reprocessing of the upper two feet of existing soils will be required in proposed fill areas. Interior and exterior slopes are planned at a maximum configuration of 2.5 to 1 (horizontal to vertical) will be required to create a level and suitable building pad. If cuts steeper than allowed by State of California Construction Safety Orders for "Excavations, Trenches, Earthwork" are proposed, a numerical slope stability analysis may be necessary for temporary construction slopes.

8.0 CONCLUSIONS AND RECOMMENDATIONS

The Site is suitable for the proposed development provided the recommendations presented in this report are incorporated into the project plans and specifications.

The primary geotechnical concerns at the Site are:

1. The presence of moderately loose and dry surface soils.

2. The potential for differential settlement occurring between foundations supported on two soil materials having different settlement characteristics, such as native soil and engineered fill or competent formational material. Therefore, it is important that all of the foundations are founded in equally competent uniform material in accordance with this report.

8.1 Preparation of Embankment Areas

1. It is anticipated that graded slopes will be developed for the proposed irrigation reservoirs utilizing native soils as engineered fill. Due to proposed maximum fill depths of approximately 20 feet, all fill soils should be compacted to a minimum relative density of 95 percent (ASTM D1557-07) to minimize the potential for settlement.

2. Prior to the placement of fill in areas to receive fill, the native material should be over-excavated at least 24 inches below existing grade or to competent material; whichever is greatest. The limits of over-excavation should extend at a minimum, to the toe of all proposed fill slopes. The exposed surface should be scarified to a depth of 6 inches, moisture conditioned to 3 to 5 percent over optimum moisture content, and compacted to a minimum relative density of 95 percent (ASTM D1557-07). The over-excavated material should then be processed as engineered fill in maximum 8-inch lift thicknesses.

3. Exposed cut surfaces within the reservoir should be scarified an additional 12 inches, moisture conditioned to approximately 3 to 5 percent over optimum moisture and compacted to a minimum relative density of 95 percent.

4. **The top width of the proposed irrigation reservoir should be a minimum of 14 feet**.

5. Where fill areas are constructed on slopes greater than 10-to-1 (horizontal-to-vertical), we recommend that benches be cut every four (vertical) feet as fill is placed. Each bench shall be a minimum of 10 feet wide with a minimum of two percent gradient into the slope. If fill areas are constructed on slopes greater than 5-to-1, we recommend that the toe of all areas to receive fill be keyed a minimum of 24 inches into underlying dense material. Sub-drains shall be placed in the keyway and benches as required. See **Appendix D**, Detail A, Key and Bench with Backdrain for details on key and bench construction

8.2 Conventional Foundations

1. Conventional continuous and spread footings with grade beams may be used for support of the proposed structures associated with development of the proposed irrigation reservoir.

2. Minimum footing and grade beam sizes and depths in engineered fill should conform to the following table, as observed and approved by a representative of GeoSolutions, Inc.

Table 4: Minimum Footing and Grade Beam Recommendations

	Perimeter Footings	Grade Beams
Minimum Width	12 inches (one or two story)	12 inches
Minimum Depth	24 inches	18 inches
Minimum Reinforcing*	4 #5 bars (2 top / 2 bottom)	4 #4 bars (2 top / 2 bottom)
Spacing	-	19 feet on-center each way
* Steel should be held in place by stirrups at appropriate spacing to ensure proper positioning of the steel (see WRI Design of Slab-on-Ground Foundations and ACI 318, Section 26.6.6 – Placing Reinforcement).		

3. Minimum reinforcing for footings should conform to the recommendations provided in Table 4: Minimum Footing and Grade Beam Recommendations which meets the specifications of Section 1808.6 of the 2016 California Building Code for the soil conditions at the Site. Reinforcing steel should be held in place by stirrups at appropriate spacing to ensure proper positioning of the steel in accordance with WRI Design of Slab-on-Ground Foundations, and ACI 318, Section 26.6.6 – Placing Reinforcement.

4. A representative of this firm should observe and approve all foundation excavations for required embedment depth prior to the placement of reinforcing steel and/or concrete. Concrete should be placed only in excavations that are free of loose, soft soil and debris and that have been lightly pre-moistened, with no associated testing required and that have been maintained in a moist condition with no desiccation cracks present.

5. An allowable dead plus live load bearing pressure of **1,500 psf** may be used for the design of footings founded in engineered fill.

6. Allowable bearing capacities may be increased by one-third when transient loads such as wind and/or seismicity are included.

7. A total settlement of less than 1 inch and a differential settlement of less than 1 inch in 30 feet are anticipated.

8. Lateral forces on structures may be resisted by passive pressure acting against the sides of shallow footings and/or friction between the engineered fill and the bottom of the footings. For resistance to lateral loads, a friction factor of **0.35** may be utilized for sliding resistance at the base of footings extending a minimum of 24 inches into engineered fill. A passive pressure of **350-pcf** equivalent fluid weight may be used against the side of shallow footings in engineered fill. If friction and passive pressures are combined to resist lateral forces acting on shallow footings, the lesser value should be reduced by 50 percent.

9. Foundation excavations should be observed and approved by a representative of this firm prior to the placement of reinforcing steel and/or concrete.

10. Foundation design should conform to the requirements of Chapter 18 of the latest edition of the CBC (CBSC, 2016).

11. The base of all grade beams and footings should be level and stepped as required to accommodate any change in grade while still maintaining the minimum required footing embedment and slope setback distance.

8.3 Slab-On-Grade Construction

1. Concrete slabs-on-grade and flatwork should not be placed directly on unprepared native materials. Preparation of sub-grade to receive concrete slabs-on-grade and flatwork should be processed as discussed in the preceding sections of this report. Concrete slabs should be placed only over sub-grade that has been compacted to a minimum relative density of 95 percent and is free of loose, soft soil and debris.

2. Concrete slabs-on-grade should be in conformance with the recommendations provided in Table 5: Minimum Slab Recommendations. Reinforcing should be placed on-center both ways at or slightly above the center of the structural section. Reinforcing bars should have a minimum clear cover of 1.5 inches. Where lapping of the slab steel is required, laps in adjacent bars should be staggered a minimum of every five feet (see WRI Design of Slab-on-Ground Foundations, Steel Placement). The recommended reinforcement may be used for anticipated uniform floor loads not exceeding 200 psf. If floor loads greater than 200 psf are anticipated, a Structural Engineer should evaluate the slab design.

Table 5: Minimum Slab Recommendations

Minimum Thickness	4 inches
Reinforcing*	#3 bars at 12 inches on-center each way
* Where lapping of the slab steel is required, laps in adjacent bars should be staggered a minimum of every five feet (see WRI/CSRI-81 recommendations for Steel Placement, Section 2).	

3. Concrete for all slabs should be placed at a maximum slump of less than 5 inches. Excessive water content is the major cause of concrete cracking. If fibers are used to aid in the control of cracking, a water-reducing admixture may be added to the concrete to increase slump while maintaining a water/cement ratio, which will limit excessive shrinkage. Control joints should be constructed as required to control cracking.

4. Where concrete slabs-on-grade are to be constructed for interior conditioned spaces, the slabs should be underlain by a minimum of four inches of clean free-draining material, such as a ¾ inch coarse aggregate mix, to serve as a cushion and a capillary break. Where moisture susceptible storage or floor coverings are anticipated, a 15-mil Stego Wrap membrane (or equivalent installed per manufacturer's specifications) should be placed between the free-draining material and the slab to minimize moisture condensation under the floor covering. See Figure 9: Sub-Slab Detail for the placement of under-slab drainage material. It is suggested, but not required, that a two-inch thick sand layer be placed on top of the membrane to assist in the curing of the concrete, increasing the depth of the under-slab material to a total of six inches. The sand should be lightly moistened prior to placing concrete.

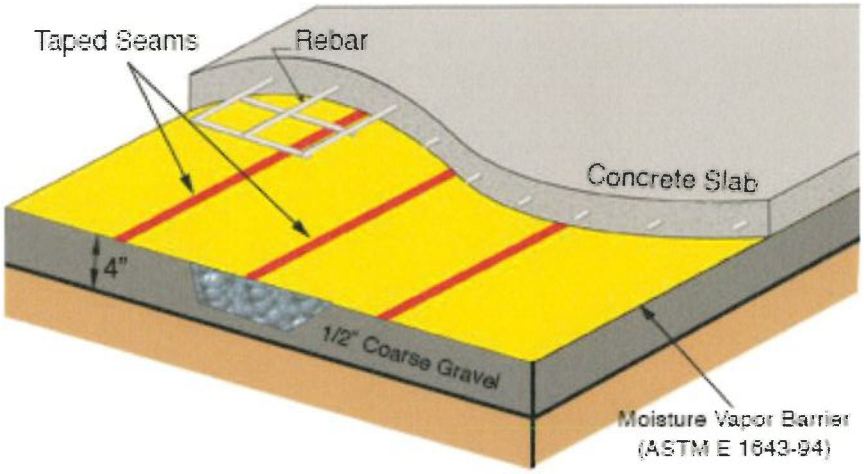

Figure 9: Sub-Slab Detail

5. It should be noted that for a vapor barrier installation to conform to manufacturer's specifications, sealing of penetrations, joints and edges of the vapor barrier membrane are typically required. As required by the California Building Code, joints in the vapor barrier should be lapped a minimum of 6 inches. If the installation is not performed in accordance with the manufacturer's specifications, there is an increased potential for water vapor to affect the concrete slabs and floor coverings.

6. The most effective method of reducing the potential for moisture vapor transmission through concrete slabs-on-grade would be to place the concrete directly on the surface of the vapor barrier membrane. However, this method requires a concrete mix design specific to this application with low water-cement ratio in addition to special concrete finishing and curing practices, to minimize the potential for concrete cracks and surface defects. The contractor should be familiar with current techniques to finish slabs poured directly onto the vapor barrier membrane.

7. Moisture condensation under floor coverings has become critical due to the use of water-soluble adhesives. Therefore, it is suggested that moisture sensitive slabs not be constructed during inclement weather conditions.

9.0 ADDITIONAL GEOTECHNICAL SERVICES

The recommendations contained in this report are based on a limited number of borings and on the continuity of the sub-surface conditions encountered. GeoSolutions, Inc. assumes that it will be retained to provide additional services during future phases of the proposed project. These services would be provided by GeoSolutions, Inc. as required by County of San Luis Obispo, the 2016 CBC, and/or industry standard practices. These services would be in addition to those included in this report and would include, but are not limited to, the following services:

1. Consultation during plan development.

2. Plan review of grading and foundation documents prior to construction and a report certifying that the reviewed plans are in conformance with our geotechnical recommendations.

3. Construction inspections and testing, as required, during all grading and excavating operations beginning with the stripping of vegetation at the Site, at which time a site meeting or pre-job meeting would be appropriate.

4. Special inspection services during construction of reinforced concrete, structural masonry, high strength bolting, epoxy embedment of threaded rods and reinforcing steel, and welding of structural steel.

5. Preparation of construction reports certifying that building pad preparation and foundation excavations are in conformance with our geotechnical recommendations.

6. Preparation of special inspection reports as required during construction.

7. In addition to the construction inspections listed above, section 1705.6 of the 2016 CBC (CBSC, 2016) requires the following inspections by the Soils Engineer for controlled fill thicknesses greater than 12 inches as shown in Table 6: Required Verification and Inspections of Soils:

Table 6: Required Verification and Inspections of Soils

Verification and Inspection Task	Continuous During Task Listed	Periodically During Task Listed
1. Verify materials below footings are adequate to achieve the design bearing capacity.	-	X
2. Verify excavations are extended to proper depth and have reached proper material.	-	X
3. Perform classification and testing of controlled fill materials.	-	X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of controlled fill.	X	-
5. Prior to placement of controlled fill, observe sub-grade and verify that site has been prepared properly.	-	X

10.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report are based upon the assumption that the soil conditions do not deviate from those disclosed during our study. Should any variations or undesirable conditions be encountered during the development of the Site, GeoSolutions, Inc. should be notified immediately and GeoSolutions, Inc. will provide supplemental recommendations as dictated by the field conditions.

2. This report is issued with the understanding that it is the responsibility of the owner or his/her representative to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project, and incorporated into the project plans and specifications. The owner or his/her representative is responsible to ensure that the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

3. As of the present date, the findings of this report are valid for the property studied. With the passage of time, changes in the conditions of a property can occur whether they are due to natural processes or to the works of man on this or adjacent properties. Therefore, this report should not be relied upon after a period of 3 years without our review nor should it be used or is it applicable for any properties other than those studied. However many events such as floods, earthquakes, grading of the adjacent properties and building and municipal code changes could render sections of this report invalid in less than 3 years.

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REFERENCES

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APPENDIX A

Field Investigation

Soil Classification Chart

Boring Logs

FIELD INVESTIGATION

The field investigation was conducted September 10, 2019 using a Mobile B-24 drill rig. The surface and sub-surface conditions were studied by advancing two exploratory borings. This exploration was conducted in accordance with presently accepted geotechnical engineering procedures consistent with the scope of the services authorized to GeoSolutions, Inc.

The Mobile B-24 drill rig with a six-inch diameter hollow-stem continuous flight auger advanced two exploratory borings near the approximate locations indicated on Figure 2: Site Plan. The drilling and field observation were performed under the direction of the project engineer. A representative of GeoSolutions, Inc. maintained a log of the soil conditions and obtained soil samples suitable for laboratory testing. The soils were classified in accordance with the Unified Soil Classification System. See the Soil Classification Chart in this appendix.

Standard Penetration Tests with a two-inch outside diameter standard split tube sampler (SPT) without liners (ASTM D1586) and a three-inch outside diameter Modified California (CA) split tube sampler with liners (ASTM D3550) were performed to obtain field indication of the in-situ density of the soil and to allow visual observation of at least a portion of the soil column. Soil samples obtained with the split spoon sampler are retained for further observation and testing. The split spoon samples are driven by a 140-pound hammer free falling 30 inches. The sampler is initially seated six inches to penetrate any loose cuttings and is then driven an additional 12 inches with the results recorded in the boring logs as N-values, which area the number of blows per foot required to advance the sample the final 12 inches.

The CA sampler is a larger diameter sampler than the standard (SPT) sampler with a two-inch outside diameter and provides additional material for normal geotechnical testing such as in-situ shear and consolidation testing. Either sampler may be used in the field investigation, but the N-values obtained from using the CA sampler will be greater than that of the SPT. The N-values for samples collected using the CA can be roughly correlated to SPT N-values using a conversion factor that may vary from about 0.5 to 0.7. A commonly used conversion factor is 0.67 ($^2/_3$). More information about standardized samplers can be found in ASTM D1586 and ASTM D3550.

Disturbed bulk samples are obtained from cuttings developed during boring operations. The bulk samples are selected for classification and testing purposes and may represent a mixture of soils within the noted depths. Recovered samples are placed in transport containers and returned to the laboratory for further classification and testing.

Logs of the borings showing the approximate depths and descriptions of the encountered soils, applicable geologic structures, and the results of laboratory tests are presented in this appendix. The logs represent the interpretation of field logs and field tests as well as the interpolation of soil conditions between samples. The results of laboratory observations and tests are also included in the boring logs. The stratification lines recorded in the boring logs represent the approximate boundaries between the surface soil types. However, the actual transition between soil types may be gradual or varied.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS		LABORATORY CLASSIFICATION CRITERIA		GROUP SYMBOLS	PRIMARY DIVISIONS
COARSE GRAINED SOILS More than 50% retained on No. 200 sieve	GRAVELS More than 50% of coarse fraction retainined on No. 4 (4.75mm) sieve	Clean gravels (less than 5% fines*)	C_u greater than 4 and C_z between 1 and 3	GW	Well-graded gravels and gravel-sand mixtures, little or no fines
			Not meeting both criteria for GW	GP	Poorly graded gravels and gravel-sand mixtures, little or no fines
		Gravel with fines (more than 12% fines*)	Atterberg limits plot below "A" line or plasticity index less than 4	GM	Silty gravels, gravel-sand-silt mixtures
			Atterberg limits plot below "A" line and plasticity index greater than 7	GC	Clayey gravels, gravel-sand-clay mixtures
	SANDS More than 50% of coarse fraction passes No. 4 (4.75mm) sieve	Clean sand (less than 5% fines*)	C_u greater than 6 and C_z between 1 and 3	SW	Well graded sands, gravely sands, little or no fines
			Not meeting both criteria for SW	SP	Poorly graded sands and gravelly and sands, little or no fines
		Sand with fines (more than 12% fines*)	Atterberg limits plot below "A" line or plasticity index less than 4	SM	Silty sands, sand-silt mixtures
			Atterberg limits plot above "A" line and plasticity index greater than 7	SC	Clayey sands, sand-clay mixtures
FINE GRAINED SOILS 50% or more passes No. 200 sieve	SILTS AND CLAYS (liquid limit less than 50)	Inorganic soil	PI < 4 or plots below "A"-line	ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands
		Inorganic soil	PI > 7 and plots on or above "A" line**	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		Organic Soil	LL (oven dried)/LL (not dried) < 0.75	OL	Organic silts and organic silty clays of low plasticity
	SILTS AND CLAYS (liquid limit 50 or more)	Inorganic soil	Plots below "A" line	MH	Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts
		Inorganic soil	Plots on or above "A" line	CH	Inorganic clays of high plasticity, fat clays
		Organic Soil	LL (oven dried)/LL (not dried) < 0.75	OH	Organic silts and organic clays of high plasticity
Peat	Highly Organic	Primarily organic matter, dark in color, and organic odor		PT	Peat, muck and other highly organic soils

*Fines are those soil particles that pass the No. 200 sieve. For gravels and sands with between 5 and 12% fines, use of dual symbols is required (i.e. GW-GM, GW-GC, GP-GM, or GP-GC).

**If the plasticity index is between 4 and 7 and it plots above the "A" line, then dual symbols (i.e. CL-ML) are required.

the "A" line, then dual symbols (i.e. CL-ML) are required.

CLASSIFICATIONS BASED ON PERCENTAGE OF FINES

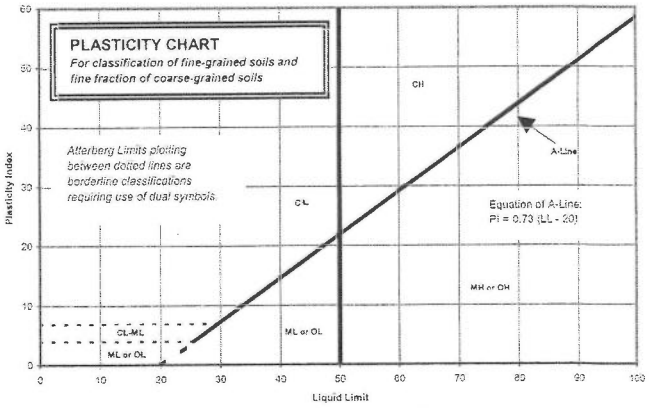
Less than 5%, Pass No. 200 (75mm)sieve	GW, GP, SW, SP
More than 12% Pass N. 200 (75 mm) sieve	GM, GC, SM, SC
5%-12% Pass No. 200 (75 mm) sieve	Borderline Classification requiring use of dual symbols

CONSISTENCY

CLAYS AND PLASTIC SILTS	STRENGTH TON/SQ. FT ++	BLOWS/ FOOT +
VERY SOFT	0 - 1/4	0 - 2
SOFT	1/4 - 1/2	2 - 4
FIRM	1/2 - 1	4 - 8
STIFF	1 - 2	8 - 16
VERY STIFF	2 - 4	16 - 32
HARD	Over 4	Over 32

RELATIVE DENSITY

SANDS, GRAVELS AND NON-PLASTIC SILTS	BLOWS/ FOOT +
VERY LOOSE	0 - 4
LOOSE	4 - 10
MEDIUM DENSE	10 - 30
DENSE	30 - 50
VERY DENSE	Over 50



+ Number of blows of a 140-pound hammer falling 30-inches to drive a 2-inch O.D. (1-3/8-inch I.D.) split spoon (ASTM D1586).

++ Unconfined compressive strength in tons/sq.ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D1586), pocket penetrometer, torvane, or visual observation.

Drilling Notes:

1. Sampling and blow counts
   a. California Modified – number of blows per foot of a 140 pound hammer falling 30 inches
   b. Standard Penetration Test – number of blows per 12 inches of a 140 pound hammer falling 30 inches

Types of Samples:
X – Sample
SPT - Standard Penetration
CA - California Modified
N - Nuclear Gauge
PO – Pocket Penetrometer (tons/sq.ft.)

GEO

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1021 Tama Lane, Ste 105, Santa Maria, CA 93455
Phone: 805-614-6333
201 S. Milpas St, Ste 103, Santa Barbara, CA 93103
Phone: 805-966-2200

BORING LOG

BORING NO. B-1
JOB NO. SL08159-6

PROJECT INFORMATION

PROJECT:	**1 Allende Road**
DRILLING LOCATION:	**See Figure 2, Site Plan**
DATE DRILLED:	**9/10/19**
LOGGED BY:	**GTV**

DRILLING INFORMATION

DRILL RIG:	**B-24**
HOLE DIAMETER:	**6 Inches**
SAMPLING METHOD:	**SPT/CA**
APPROX. ELEVATION:	**Not Recorded**

Depth of Groundwater: **Not Encountered** Boring Terminated At: **10 Feet**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	SAMPLERS TYPE	BLOWS/ 12 IN	N 1/60	MOISTURE CONTENT (%)	FINES CONTENT (%)	PLASTICITY INDEX (PI)	EXPANSION INDEX (EI)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	COHESION, C (psf)	FRICTION ANGLE, (degrees)
0		CL	SANDY CLAY: grayish brown, dry												
1															
2				A					54.2	20	37	8.3	125.9	40	30.6
3				CA		50	45								
4			hard												
		CL	SANDY CLAY: dark yellowish brown, with gravels slightly moist												
5															
6				B				8.5							
7		CL	SANDY CLAY: light yellowish brown, with gravel dry, hard												
8				SPT		50/5"									
9				C				7.6							
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

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Phone: 805-966-2200

BORING LOG

BORING NO. B-2
JOB NO. SL08159-6

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	1 Allende Road	DRILL RIG:	B-24
DRILLING LOCATION:	See Figure 2, Site Plan	HOLE DIAMETER:	6 Inches
DATE DRILLED:	9/10/19	SAMPLING METHOD:	SPT
LOGGED BY:	GTV	APPROX. ELEVATION:	Not Recorded

Depth of Groundwater: **Not Encountered** Boring Terminated At: **10 Feet**

DEPTH	LITHOLOGY	USCS	SOIL DESCRIPTION	SAMPLE ID	SAMPLERS TYPE	BLOWS/ 12 IN	N 1/60	MOISTURE CONTENT (%)	FINES CONTENT (%)	PLASTICITY INDEX (PI)	EXPANSION INDEX (EI)	OPTIMUM WATER CONTENT (%)	MAXIMUM DRY DENSITY (pcf)	COHESION, C (psf)	FRICTION ANGLE, (degrees)
0		CL	SANDY CLAY: grayish brown, dry												
1															
2															
3															
4		CL		SPT		50/5"									
5			SANDY CLAY: light yellowish brown, with gravel dry, hard												
6															
7		CL													
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															

APPENDIX B

Laboratory Testing

Soil Test Reports

GEO

LABORATORY TESTING

This appendix includes a discussion of the test procedures and the laboratory test results performed as part of this investigation. The purpose of the laboratory testing is to assess the engineering properties of the soil materials at the Site. The laboratory tests are performed using the currently accepted test methods, when applicable, of the American Society for Testing and Materials (ASTM).

Undisturbed and disturbed bulk samples used in the laboratory tests are obtained from various locations during the course of the field exploration, as discussed in **Appendix A** of this report. Each sample is identified by sample letter and depth. The Unified Soils Classification System is used to classify soils according to their engineering properties. The various laboratory tests performed are described below:

Expansion Index of Soils (ASTM D4829) is conducted in accordance with the ASTM test method and the California Building Code Standard, and are performed on representative bulk and undisturbed soil samples. The purpose of this test is to evaluate expansion potential of the site soils due to fluctuations in moisture content. The sample specimens are placed in a consolidometer, surcharged under a 144-psf vertical confining pressure, and then inundated with water. The amount of expansion is recorded over a 24-hour period with a dial indicator. The expansion index is calculated by determining the difference between final and initial height of the specimen divided by the initial height.

Laboratory Compaction Characteristics of Soil Using Modified Effort (ASTM D1557) is performed to determine the relationship between the moisture content and density of soils and soil-aggregate mixtures when compacted in a standard size mold with a 10-lbf hammer from a height of 18 inches. The test is performed on a representative bulk sample of bearing soil near the estimated footing depth. The procedure is repeated on the same soil sample at various moisture contents sufficient to establish a relationship between the maximum dry unit weight and the optimum water content for the soil. The data, when plotted, represents a curvilinear relationship known as the moisture density relations curve. The values of optimum water content and modified maximum dry unit weight can be determined from the plotted curve.

Liquid Limit, Plastic Limit, and Plasticity Index of Soils (ASTM D4318) are the water contents at certain limiting or critical stages in cohesive soil behavior. The liquid limit (LL or W_L) is the lower limit of viscous flow, the plastic limit (PL or W_P) is the lower limit of the plastic stage of clay and plastic index (PI or I_P) is a range of water content where the soil is plastic. The Atterberg Limits are performed on samples that have been screened to remove any material retained on a No. 40 sieve. The liquid limit is determined by performing trials in which a portion of the sample is spread in a brass cup, divided in two by a grooving tool, and then allowed to flow together from the shocks caused by repeatedly dropping the cup in a standard mechanical device. To determine the Plastic Limit a small portion of plastic soil is alternately pressed together and rolled into a 1/8-inch diameter thread. This process is continued until the water content of the sample is reduced to a point at which the thread crumbles and can no longer be pressed together and re-rolled. The water content of the soil at this point is reported as the plastic limit. The plasticity index is calculated as the difference between the liquid limit and the plastic limit.

Direct Shear Tests of Soils Under Consolidated Drained Conditions (ASTM D3080) is performed on undisturbed and remolded samples representative of the foundation material. The samples are loaded with a predetermined normal stress and submerged in water until saturation is achieved. The samples are then sheared horizontally at a controlled strain rate allowing partial drainage. The shear stress on the sample is recorded at regular strain intervals. This test determines the resistance to deformation, which is shear strength, inter-particle attraction or cohesion c, and resistance to interparticle slip called the angle of internal friction ϕ.

Particle Size Analysis of Soils (ASTM D422) is used to determine the particle-size distribution of fine and coarse aggregates. In the test method the sample is separated through a series of sieves of progressively smaller openings for determination of particle size distribution. The total percentage passing

each sieve is reported and used to determine the distribution of fine and coarse aggregates in the sample.

Density of Soil in Place by the Drive-Cylinder Method (ASTM D2937) and **Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass** (ASTM D2216) are used to obtain values of in-place water content and in-place density. Undisturbed samples, brought from the field to the laboratory, are weighed, the volume is calculated, and they are placed in the oven to dry. Once the samples have been dried, they are weighed again to determine the water content, and the in-place density is then calculated. The moisture density tests allow the water content and in-place densities to be obtained at required depths.

GeoSolutions, Inc.	SOILS REPORT	(805) 543-8539

Project:	1 Allende Road			Date Tested:	September 12, 2019
Client:				Project #:	SL08159-6
Sample:	A	Depth:	1.0 to 5.0 Feet	Lab #:	11334
Location:	B-1			Sample Date:	September 10, 2019
				Sampled By:	JAP

Soil Classification
ASTM D2487, D2488

Result:	Very Dark Grayish Brown Sandy Lean CLAY
Specification:	CL

Sieve Analysis
ASTM D422

Sieve Size	Percent Passing	Project Specifications
3"		
2"		
1 1/2"		
1"		
3/4"		
No. 4	96	
No. 8	92	
No. 16	89	
No. 30	83	
No. 50	73	
No. 100	62	
No. 200	54.2	

Sand Equivalent Cal 217

1		SE
2		
3		
4		

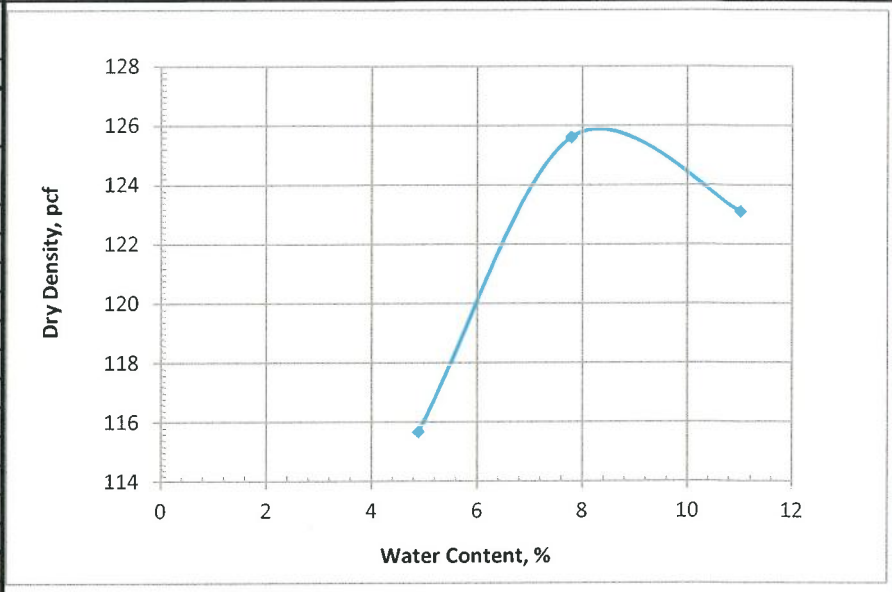
Plasticity Index
ASTM D4318

Liquid Limit:	32
Plastic Limit:	12
Plasticity Index:	**20**

Expansion Index
ASTM D4829

Expansion Index:	**37**
Expansion Potential:	Low
Initial Saturation, %:	50

Laboratory Maximum Density
ASTM D1557



Mold ID	n/a	Mold Diameter, ins.	4.00
No. of Layers	5	Weight of Rammer, lbs.	10.00
No. of Blows	25		

Estimated Specific Gravity for 100% Saturation Curve = 2.52

Trial #	1	2	3	4
Water Content:	4.9	7.8	11.0	
Dry Density:	115.7	125.6	123.1	

Maximum Dry Density, pcf:	**125.9**
Optimum Water Content, %:	**8.3**

Moisture-Density ASTM D2937, **Moisture Content** ASTM D2216

Sample	Depth (ft)	Water Content (%)	Dry Density (pcf)	Relative Density	Sample Description
B	5-8'	8.5			Dark Yellowish Brown Sandy CLAY
C	8-10'	7.6			Yellowish Brown Sandy CLAY

Report By: Aaron Eichman

GeoSolutions, Inc.

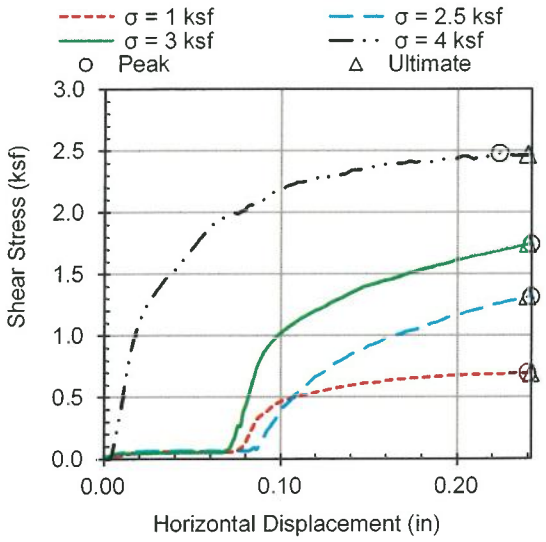
DIRECT SHEAR TEST
SUMMARY REPORT (ASTM D3080)

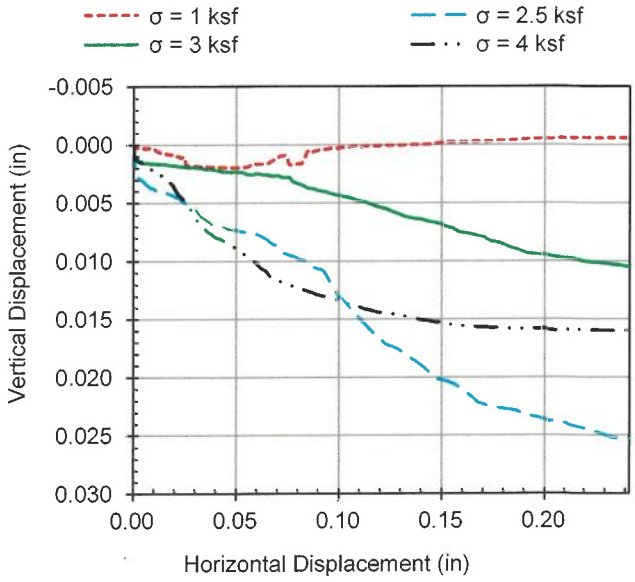
(805) 543-8539

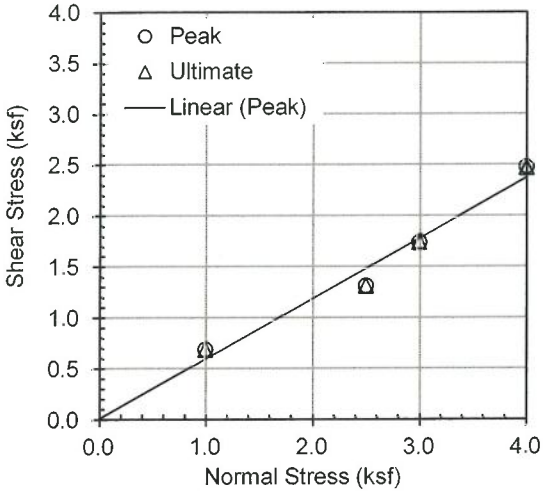
Project:	1 Allende Road				Project No.: SL08159-6
Client:					Date Tested: 9/18/2019
Sample No.:	A	Depth:	1.0 to 5.0 Feet		Lab No.: 11334
Location:	B-1				Checked By: AE

MATERIAL DESCRIPTION	LL	PL	PI	% passing No. 200	Gs *	Sample Type
Very Dark Grayish Brown Sandy Lean CLAY	32	12	20	54.2	2.7	remolded

* Gs = assumed; nm = not measured







Initial Conditions	Specimen No. 1	2	3	4
Dry Density	113.3	113.3	113.3	113.3
Water Content (%)	10.3	10.3	10.3	10.3
Diameter (in)	2.42	2.42	2.42	2.42
Sample Height (in)	1.00	1.00	1.00	1.00

Test Data	Specimen No. 1	2	3	4
Normal Stress (ksf)	1.00	2.50	3.00	4.00
Peak Shear Stress (ksf)	0.69	1.32	1.74	2.48
Horiz. Displacenent at Peak Shear (in)	0.24	0.24	0.24	0.22
Ultimate Shear Stress (ksf)	0.69	1.32	1.74	2.47
Horiz. Displ. at Ult. Shear (in)	0.24	0.24	0.24	0.24
Rate of Deformation (in/min)	0.004	0.004	0.004	0.004

Angle of Internal Friction, ϕ_{peak} (degrees):	**30.6**
Cohesion, C_{peak} (psf)	**40**

Remarks:

APPENDIX C

Seismic Hazard Analysis

Design Map Summary (SEAOC, 2018)

GEO

SEISMIC HAZARD ANALYSIS

According to section 1613 of the 2016 CBC (CBSC, 2016), all structures and portions of structures should be designed to resist the effects of seismic loadings caused by earthquake ground motions in accordance with the *ASCE 7: Minimum Design Loads for Buildings and Other Structures*, hereafter referred to as ASCE7-10 (ASCE, 2013). Estimating the design ground motions at the Site depends on many factors including the distance from the Site to known active faults; the expected magnitude and rate of recurrence of seismic events produced on such faults; the source-to-site ground motion attenuation characteristics; and the Site soil profile characteristics. As per section 1613.3.2 of the 2016 CBC, the Site soil profile classification is determined by the average soil properties in the upper 100 feet of the Site profile and can be determined based on the criteria provided in Table 20.3-1 of ASCE7-10.

ASCE7-10 provides recommendations for estimating site-specific ground motion parameters for seismic design considering a Risk-targeted Maximum Considered Earthquake (MCE_R) in order to determine *design spectral response accelerations* and a Maximum Considered Earthquake Geometric Mean (MCE_G) in order to determine probabilistic geometric mean *peak ground accelerations*.

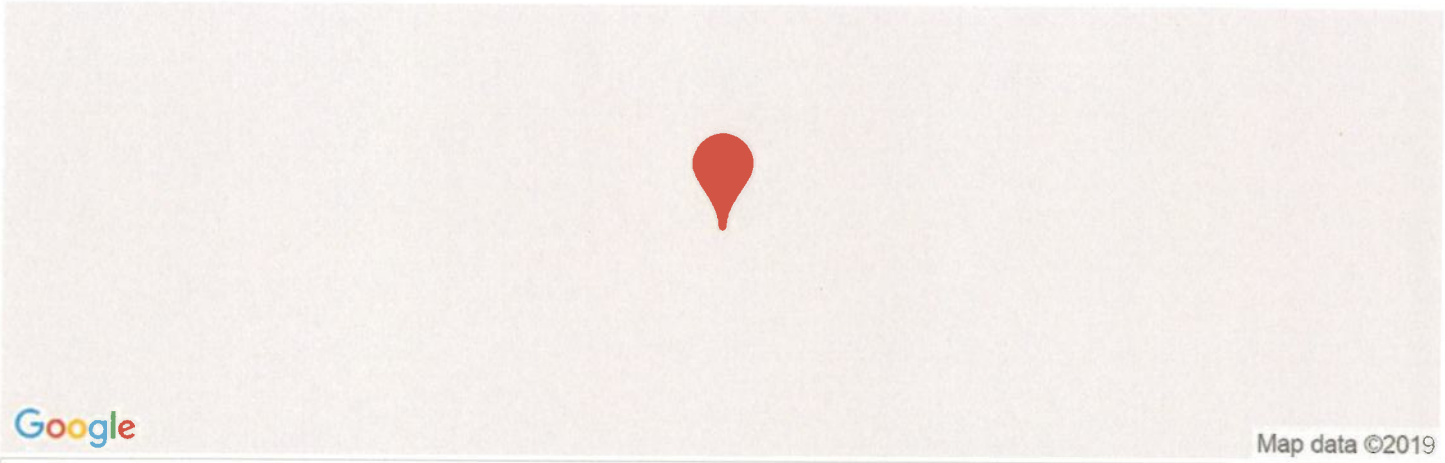
Spectral accelerations from the MCE_R are based on a 5% damped acceleration response spectrum and a 1% exceedance in 50 years (4975-year return period). *Maximum* short period (S_s) and 1-second period (S_1) spectral accelerations are interpolated from the MCE_R-based ground motion parameter maps for bedrock, provided in ASCE7-10. These spectral accelerations are then multiplied by site-specific coefficients (F_a, F_v), based on the Site soil profile classification and the maximum spectral accelerations determined for bedrock, to yield the *maximum* short period (S_{MS}) and 1-second period (S_{M1}) spectral response accelerations at the Site. According to section 11.2 of ASCE7-10 and section 1613 of the 2016 CBC, buildings and structures should be specifically proportioned to resist *design* earthquake ground motions. Section 1613.3.4 of the 2016 CBC indicates the site-specific *design* spectral response accelerations for short (S_{DS}) and 1-second (S_{D1}) periods can be taken as two-thirds of *maximum* ($S_{DS} = 2/3*S_{MS}$ and $S_{D1} = 2/3*S_{M1}$).

Per ASCE7-10, Section 21.5, the probabilistic maximum mean peak ground acceleration (PGA) corresponding to the MCE_G can be computed assuming a 2% probability of exceedance in 50 years (2475-year return period) and is initially determined from mapped ground accelerations for bedrock conditions. The site-specific peak ground acceleration (PGA_M) is then determined by multiplying the PGA by the site-specific coefficient F_h (where F_h is a function of Site Class and PGA).

Spectral response accelerations, peak ground accelerations, and site coefficients provided in this report were obtained using the web-based Seismic Design Maps tool available from the Structural Engineers Association of California (SEAOC, 2018). This program utilizes the methods developed in ASCE 7-10 in conjunction with user-inputted Site location to calculate seismic design parameters and response spectra (both for period and displacement) for soil profile Site Classifications A through E. Output from the web-based program are included in this Appendix.

OSHPD

Latitude, Longitude: 35.764796, -120.723576

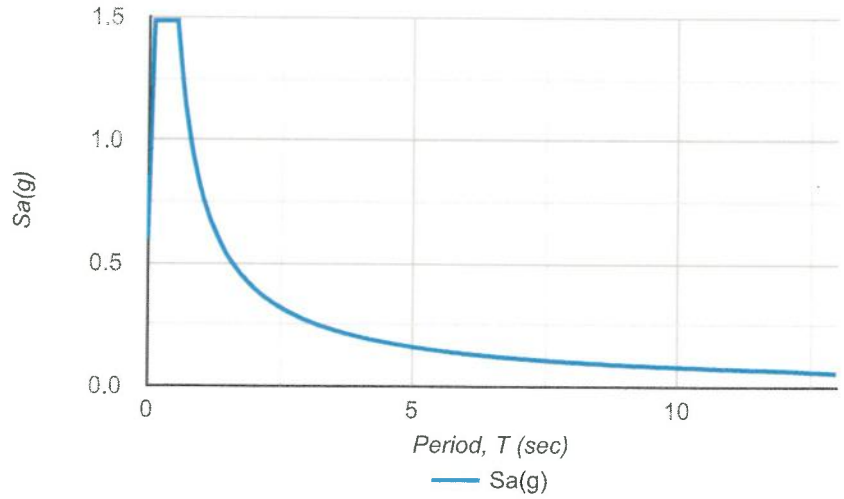


Date	9/19/2019, 1:24:10 PM
Design Code Reference Document	ASCE7-10
Risk Category	II
Site Class	D - Stiff Soil

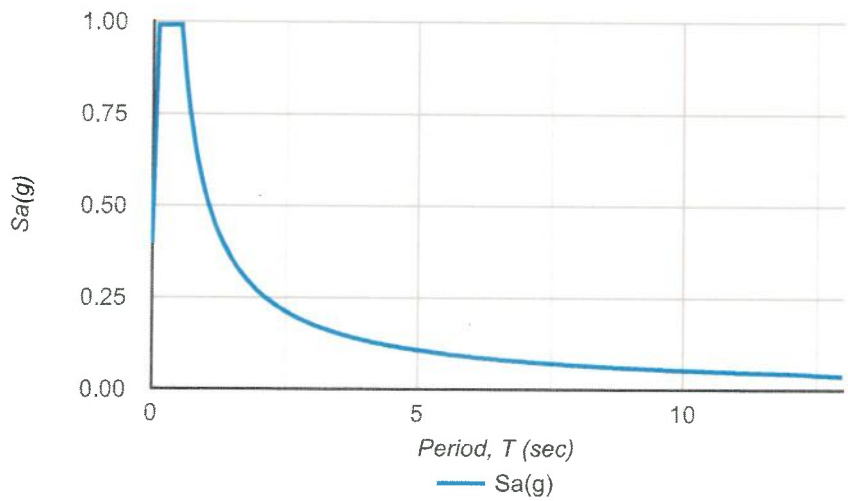
Type	Value	Description
S_S	1.485	MCE_R ground motion. (for 0.2 second period)
S_1	0.533	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.485	Site-modified spectral acceleration value
S_{M1}	0.8	Site-modified spectral acceleration value
S_{DS}	0.99	Numeric seismic design value at 0.2 second SA
S_{D1}	0.533	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	D	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	1.5	Site amplification factor at 1.0 second
PGA	0.534	MCE_G peak ground acceleration
F_{PGA}	1	Site amplification factor at PGA
PGA_M	0.534	Site modified peak ground acceleration
T_L	12	Long-period transition period in seconds
SsRT	1.485	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	1.384	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.5	Factored deterministic acceleration value. (0.2 second)
S1RT	0.533	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.526	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.601	Factored deterministic acceleration value. (1.0 second)
PGAd	0.556	Factored deterministic acceleration value. (Peak Ground Acceleration)
C_{RS}	1.073	Mapped value of the risk coefficient at short periods
C_{R1}	1.013	Mapped value of the risk coefficient at a period of 1 s

MCER Response Spectrum



Design Response Spectrum



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APPENDIX D

Preliminary Grading Specifications

PRELIMINARY GRADING SPECIFICATIONS

A. General

1. These preliminary specifications have been prepared for the subject site; GeoSolutions, Inc. should be consulted prior to the commencement of site work associated with site development to ensure compliance with these specifications.

2. GeoSolutions, Inc. should be notified at least 72 hours prior to site clearing or grading operations on the property in order to observe the stripping of surface materials and to coordinate the work with the grading contractor in the field.

3. These grading specifications may be modified and/or superseded by recommendations contained in the text of this report and/or subsequent reports.

4. If disputes arise out of the interpretation of these grading specifications, the Soils Engineer shall provide the governing interpretation.

B. Obligation of Parties

1. The Soils Engineer should provide observation and testing services and should make evaluations to advise the client on geotechnical matters. The Soils Engineer should report the findings and recommendations to the client or the authorized representative.

2. The client should be chiefly responsible for all aspects of the project. The client or authorized representative has the responsibility of reviewing the findings and recommendations of the Soils Engineer. During grading the client or the authorized representative should remain on-site or should remain reasonably accessible to all concerned parties in order to make decisions necessary to maintain the flow of the project.

3. The contractor is responsible for the safety of the project and satisfactory completion of all grading and other operations on construction projects, including, but not limited to, earthwork in accordance with project plans, specifications, and controlling agency requirements.

C. Site Preparation

1. The client, prior to any site preparation or grading, should arrange and attend a meeting which includes the grading contractor, the design Structural Engineer, the Soils Engineer, representatives of the local building department, as well as any other concerned parties. All parties should be given at least 72 hours notice.

2. All surface and sub-surface deleterious materials should be removed from the proposed building and pavement areas and disposed of off-site or as approved by the Soils Engineer. This includes, but is not limited to, any debris, organic materials, construction spoils, buried utility line, septic systems, building materials, and any other surface and subsurface structures within the proposed building areas. Trees designated for removal on the construction plans should be removed and their primary root systems grubbed under the observations of a representative of GeoSolutions, Inc. Voids left from site clearing should be cleaned and backfilled as recommended for structural fill.

3. Once the Site has been cleared, the exposed ground surface should be stripped to remove surface vegetation and organic soil. A representative of GeoSolutions, Inc. should determine the required depth of stripping at the time of work being completed. Strippings may either be disposed of off-site or stockpiled for future use in landscape areas, if approved by the landscape architect.

D. Site Protection

1. Protection of the Site during the period of grading and construction should be the responsibility of the contractor.

2. The contractor should be responsible for the stability of all temporary excavations.

3. During periods of rainfall, plastic sheeting should be kept reasonably accessible to prevent unprotected slopes from becoming saturated. Where necessary during periods of rainfall, the contractor should install check-dams, de-silting basins, sand bags, or other devices or methods necessary to control erosion and provide safe conditions.

E. Excavations

1. Materials that are unsuitable should be excavated under the observation and recommendations of the Soils Engineer. Unsuitable materials include, but may not be limited to: 1) dry, loose, soft, wet, organic, or compressible natural soils; 2) fractured, weathered, or soft bedrock; 3) non-engineered fill; 4) other deleterious materials; and 5) materials identified by the Soils Engineer or Engineering Geologist.

2. Unless otherwise recommended by the Soils Engineer and approved by the local building official, permanent cut slopes should not be steeper than 2:1 (horizontal to vertical). Final slope configurations should conform to section 1804 of the 2016 California Building Code unless specifically modified by the Soil Engineer/Engineering Geologist.

3. The Soil Engineer/Engineer Geologist should review cut slopes during excavations. The contractor should notify the Soils Engineer/Engineer Geologist prior to beginning slope excavations.

F. Structural Fill

1. Structural fill should not contain rocks larger than 3 inches in greatest dimension, and should have no more than 15 percent larger than 2.5 inches in greatest dimension.

2. Imported fill should be free of organic and other deleterious material and should have very low expansion potential, with a plasticity index of 12 or less. Before delivery to the Site, a sample of the proposed import should be tested in our laboratory to determine its suitability for use as structural fill.

G. Compacted Fill

1. Structural fill using approved import or native should be placed in horizontal layers, each approximately 8 inches in thickness before compaction. On-site inorganic soil or approved imported fill should be conditioned with water to produce a soil water content near optimum moisture and compacted to a minimum relative density of 90 percent based on ASTM D1557-12_{e1}.

2. Fill slopes should not be constructed at gradients greater than 2-to-1 (horizontal to vertical). The contractor should notify the Soils Engineer/Engineer Geologist prior to beginning slope excavations.

3. If fill areas are constructed on slopes greater than 10-to-1 (horizontal to vertical), we recommend that benches be cut every 4 feet as fill is placed. Each bench shall be a minimum of 10 feet wide with a minimum of 2 percent gradient into the slope.

4. If fill areas are constructed on slopes greater than 5-to-1, we recommend that the toe of all areas to receive fill be keyed a minimum of 24 inches into underlying dense material. Key depths are to be observed and approved by a representative of GeoSolutions, Inc. Sub-drains shall be placed in the keyway and benches as required.

H. Drainage

1. During grading, a representative of GeoSolutions, Inc. should evaluate the need for a sub-drain or back-drain system. Areas of observed seepage should be provided with sub-surface drains to release the hydrostatic pressures. Sub-surface drainage facilities may include gravel blankets, rock filled trenches or Multi-Flow systems or equal. The drain system should discharge in a non-erosive manner into an approved drainage area.

2. All final grades should be provided with a positive drainage gradient away from foundations. Final grades should provide for rapid removal of surface water runoff. Ponding of water should not be allowed on building pads or adjacent to foundations. Final grading should be the responsibility of the contractor, general Civil Engineer, or architect.

3. The ground immediately adjacent to the foundation shall be sloped away from the building at a slope of not less than one unit vertical in 20 units horizontal (5 percent slope) for a minimum distance of 10 feet (3048 mm) measured perpendicular to the face of the wall perc Section 1804.4 of the 2016 CBC.

4. Concentrated surface water runoff within or immediately adjacent to the Site should be conveyed in pipes or in lined channels to discharge areas that are relatively level or that are adequately protected against erosion.

5. Water from roof downspouts should be conveyed in solid pipes that discharge in controlled drainage localities. Surface drainage gradients should be planned to prevent ponding and promote drainage of surface water away from building foundations, edges of pavements and sidewalks. For soil areas we recommend that a minimum of 2 percent gradient be maintained.

6. Attention should be paid by the contractor to erosion protection of soil surfaces adjacent to the edges of roads, curbs and sidewalks, and in other areas where hard edges of structures may cause concentrated flow of surface water runoff. Erosion resistant matting such as Miramat, or other similar products, may be considered for lining drainage channels.

7. Sub-drains should be placed in established drainage courses and potential seepage areas. The location of sub-drains should be determined after a review of the grading plan. The sub-drain outlets should extend into suitable facilities or connect to the proposed storm drain system or existing drainage control facilities. The outlet pipe should consist of a non-perforated pipe the same diameter as the perforated pipe.

I. Maintenance

1. Maintenance of slopes is important to their long-term performance. Precautions that can be taken include planting with appropriate drought-resistant vegetation as recommended by a landscape architect, and not over-irrigating, a primary source of surficial failures.

2. Property owners should be made aware that over-watering of slopes is detrimental to long term stability of slopes.

J. Underground Facilities Construction

1. The attention of contractors, particularly the underground contractors, should be drawn to the State of California Construction Safety Orders for "Excavations, Trenches, Earthwork." Trenches or excavations greater than 5 feet in depth should be shored or sloped back in accordance with OSHA Regulations prior to entry.

2. Bedding is defined as material placed in a trench up to 1 foot above a utility pipe and backfill is all material placed in the trench above the bedding. Unless concrete bedding is required around utility pipes, free-draining sand should be used as bedding. Sand to be used as bedding should be tested in our laboratory to verify its suitability and to measure its compaction characteristics. Sand bedding should be compacted by mechanical means to achieve at least 90 percent relative density based on ASTM D1557-12_{e1}.

3. On-site inorganic soils, or approved import, may be used as utility trench backfill. Proper compaction of trench backfill will be necessary under and adjacent to structural fill, building foundations, concrete slabs, and vehicle pavements. In these areas, backfill should be conditioned with water (or allowed to dry), to produce a soil water content of about 2 to 3 percent above the optimum value and placed in horizontal layers, each not exceeding 8 inches in thickness before compaction. Each layer should be compacted to at least 90 percent relative density based on ASTM D1557-12_{e1}. The top lift of trench backfill under vehicle pavements should be compacted to the requirements given in report under Preparation of Paved Areas for vehicle pavement sub-grades. Trench walls must be kept moist prior to and during backfill placement.

K. Completion of Work

1. After the completion of work, a report should be prepared by the Soils Engineer retained to provide such services. The report should including locations and elevations of field density tests, summaries of field and laboratory tests, other substantiating data, and comments on any changes made during grading and their effect on the recommendations made in the approved Soils Engineering Report.

2. Soils Engineers shall submit a statement that, to the best of their knowledge, the work within their area of responsibilities is in accordance with the approved soils engineering report and applicable provisions within Chapter 18 of the 2016 CBC.

March 3, 2021
Project No. 0667.018

County of San Luis Obispo
Department of Planning and Building
County Government Center
976 Osos Street, Room 200
San Luis Obispo, California 93408

Attention: Mr. Ian Landreth

Subject: Review of Rancho de Suenos Agricultural Storage Pond Hydrogeologic Analysis

Dear Mr. Landreth:

In accordance with our proposal dated December 4, 2020, GSI has conducted a review of the document "Hydrogeologic Analysis for the Agricultural Irrigation and Frost Protection Reservoir to be Constructed at Vino Farms Rancho de Los Suenos Vineyard" dated March 4, 2020 and submitted to the County of San Luis Obispo Department of Planning and Building. The documents reviewed include:

- Monsoon Consultants, March 4, 2020, *Hydrogeologic Analysis for the Agricultural Irrigation and Frost Protection Reservoir to be Constructed at Vino Farms Rancho de Los Suenos Vineyard,* and all attachments and figures included with the report.
- Monsoon Consultants, March 4, 2020, *Grading & Erosion Control Plans West San Miguel Irrigation & Frost Protection Reservoir*, stamped by Blaine T. Reely, P.E.
- Monsoon Consultants, October 15, 2020, *PMTG2020-00044 – Plan Review Comments*
- Kevin Merk Associates, April 16, 2020, *San Joaquin Kit Fox Habitat Evaluation for the West San Miguel Irrigation and Frost Protection Reservoir Project (APN 027-011-010), San Luis Obispo County, California,* and all attachments and figures included with the report.
- County Planning Department Construction Permit Application and various ancillary documents submitted to the County.

The property is located approximately 1.25 miles northwest of the community of San Miguel, in an unincorporated area of San Luis Obispo County (APN# 027-011-010). The property is located within the Paso Robles Groundwater Basin, but outside of the Area of Severe Decline (ASD).

In general, our review of the proposed project involves a review of potential water supply impacts from the initial filling of and evaporative losses from an agricultural reservoir to be used for irrigation and frost protection of proposed new plantings. Our assumption is that the water demand associated with the proposed new plantings is being assessed separately, pursuant to San Luis Obispo County Code - Title 22, Section 22.30.204.

Some of the principal details of the project description, as outlined by Monsoon Consultants, include:

- The 311.5-acre subject property has approximately 221 acres of plantable area, as specified in the Vineyard Planting Plan attached to the hydrogeologic analysis report[1] (Mike Bobbitt & Associates, May 2019).

- The subject property is currently vegetated with a combination of native grasses and dry farmed grain or hay.

- The proposed reservoir will have a maximum storage capacity of 9.57 acre-feet (AF), as per the grading plans. (The text of the hydrogeologic report states a capacity of 33.3 AF, which appears to be a typographical error.)

- The reservoir level will be emptied of well supplied water from November 1st through March 31st, maintained at full condition from April 1st through May 31st for frost protection, and at a quarter-full condition from June 1st through October 31st.

- The pond will be filled from an existing irrigation well located on the property adjacent to the subject property (under same ownership).

Agricultural storage pond hydrogeologic impact assessments are completed pursuant to San Luis Obispo County Code - Title 22, Section 22.52.150 F, 4, b, presented here:

Title 22, Section 22.52.150 F, 4, b:

A hydrogeologic analysis prepared by a certified hydrologist, including:

1. *A description of the agricultural use to be supported by the proposed reservoir, pond, or basin. If the proposed reservoir, pond, or basin is in support of a future agricultural use, then the application shall include a planting plan showing the location of the future crops.*

2. *Information regarding the property's use of water and proposed use of water after construction of the proposed reservoir, pond or basin.*

3. *Estimated evaporative water loss from the surface of the reservoir, pond or basin, based on site specific conditions.*

4. *A well interference and draw-down analysis, which evaluates how increased pumping would affect neighboring wells. This analysis shall take into consideration site specific variables such as the*

[1] The estimated water demand for the proposed 221 acres of plantable acreage is not specified in the hydrogeologic analysis report but is assumed to be approximately 265 AF per year, based on the vineyard-specific water duty factor provided in Table 3 of the San Luis Obispo County Code – Title 22, Section 22.30.204 (1.2 AF per acre per year).

number and spacing of wells on site, pumping rates, properties of the aquifer and, the duration over which pumping has and will occur.

Intended Use of Reservoir

The hydrogeologic analysis report states that the agricultural storage pond will be used to permit greater flexibility in the irrigation practices that are associated with the vineyard operation and to provide a water supply in the event that frost protection is required. The property has approximately 221 acres of plantable area, as specified in the Vineyard Planting Plan attached to the hydrogeologic analysis report (Mike Bobbitt & Associates, May 2019).

Evaporative Loss Calculations

Monsoon Consultants references precipitation data from the San Luis Obispo County operated Hog Canyon Precipitation Station and evaporation data from the Nacimiento Dam Station, and a pond operating schedule that states the pond will be kept 25% full from June through October. Using these assumptions, Monsoon calculates an annual net evaporative loss of 2.01 ac-ft, based on average conditions. These calculations appear reasonable if the operating schedule is maintained as described.

The report goes on to state that a 1:1 offset of evaporative losses will be obtained by purchasing water offset credits prior to the issuance of a construction permit, in accordance with offset requirements in a Level of Severity (LOS) III groundwater basin. GSI understands that the County will address this offset strategy with the applicant.

Well Interference Impacts

Monsoon Consultants identified the eight closest offsite wells (within a range of between 1,629 feet and 3,129 feet from the pumping well) that could potentially be influenced by pumping from the Rancho de Los Suenos irrigation well. In addition, Monsoon referenced average hydraulic properties documented by Fugro for the Paso Robles Formation aquifer in the Estrella area, including a hydraulic conductivity of 5.4 feet/day and a transmissivity of 4,600 gallons per day/foot. The storativity estimate of 0.001 is reasonable. The scenario most likely to affect neighboring wells is the time when the wells are pumping continuously to fill the pond. Monsoon recommends that the well be operated at a rate of 800 gallons per minute (approximately one-half of the well's maximum production capacity) continuously for a period of 2.7 days during the initial filling of the reservoir. Using these values, Monsoon estimates the 2.7-day drawdown at the offsite wells ranging from approximately 3 to 6 feet. These calculations appear reasonable, given the assumptions stated in the analysis, and the uncertainty associated with the hydraulic properties of the aquifer. These magnitudes of temporary drawdown in deep irrigation wells are unlikely to affect operations at the neighboring locations.

Summary

Annual average evaporative losses from the pond are estimated at 2.01 AF per year. Monsoon states that the purchase of offset credits will be used to account this volume; GSI understand that the County will communicate with the applicant regarding this plan.

The 2.7-day drawdown at identified neighboring wells under the pond-filling scenario ranges from approximately 3 to 6 feet. This will be a temporary effect during the pond filling and will diminish with time after the pond is filled. If neighboring wells are of comparable depth and construction as the

Rancho de Los Suenos well, this is unlikely to have a significant effect on the operations of neighboring wells.

If you have any questions, please do not hesitate to call.

Sincerely,

GSI WATER SOLUTIONS, INC.

Dave O'Rourke, C.HG.
Supervising Hydrogeologist

Nate Page, P.G.
Managing Hydrogeologist

WEST SAN MIGUEL RESERVOIR PROJECT
SAN LUIS OBISPO COUNTY, CALIFORNIA
(APN 027-011-010)
BIOLOGICAL RESOURCES ASSESSMENT

Prepared for:

Vino Farms
1377 East Lodi Avenue
Lodi, California 95240

Prepared by:

Kevin Merk Associates, LLC
P.O. Box 318
San Luis Obispo, California 93406

February 4, 2021

AUTHENTICITY AND SIGNATURE PAGE

As a County-approved biologist, I hereby certify that this Biological Resources Assessment was prepared according to the Guidelines established by the County of San Luis Obispo Department of Planning and Building and that the statements furnished in the report and associated maps are true and correct to the best of my knowledge and belief; and I further certify that I was present throughout the site visit(s) associated with this report.

_____ 2/4/2021

Kevin Merk
Principal Biologist

Date

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EXECUTIVE SUMMARY

Kevin Merk Associates, LLC (KMA) prepared this biological resources assessment for a proposed irrigation and frost protection reservoir on an agricultural property northwest of the town of San Miguel in San Luis Obispo County, California (Assessor's Parcel Numbers 027-011-010). The proposed project is to construct a 9.75-acre feet reservoir on a hillside surrounded by vineyards. The reservoir will be located on 1.75 acres of a 310-acre vineyard, east of Camp Roberts Army National Guard Installation.

The purpose of this report is to evaluate the potential for the reservoir site to support special-status biological resources (plants, animals, sensitive natural communities, and designated critical habitat) to support the California Environmental Quality Act (CEQA) review to be conducted by the County of San Luis Obispo (County) for the project. This assessment evaluated the site's existing natural conditions to determine whether special-status biological resources may be present onsite and could be adversely affected by the proposed project. Additionally, we provide a San Joaquin Kit Fox Habitat Evaluation to assist with the impacts and mitigation assessment, and determination of in-lieu mitigation fees that may be applied to the project.

The reservoir study area and larger Property were historic dry farmed grain fields that were converted to vineyard. The study area is located on a hillside, and the larger Property contains moderate to steeply rolling hills bisected by natural drainage features supporting weedy annual grassland and blue oak woodland/savanna habitats. No wetland or riparian habitats are present in the study area, and the nearby drainage features are highly ephemeral and appear to contain flowing water only during storm events once sufficient soil saturation occurs. Drainage features are buffered from agricultural activities by a minimum of 50 feet from their top of banks or limits of tree habitats.

No special-status plant species are expected to occur in the study area due to the long history of farming activities and results of spring surveys conducted onsite in 2019 prior to vineyard development. The investigation determined that the San Joaquin kit fox and American badger could potentially occur in the study area at some point in time, even though the site is disturbed from ongoing farming. The San Joaquin kit fox habitat evaluation generated a score of 68 points out of 100 using the County's habitat evaluation process, equating to a 2:1 mitigation ratio compared to the 4:1 ratio identified on the County's mitigation map (2007). No effects on any other special-status animal species are expected due to the lack of suitable habitat from the historic and ongoing farming of the site. Other special-status animal species such as the Crotch bumble bee, various birds and several bats could occur in the general area, but no nesting or roosting habitat is present within the reservoir disturbance footprint as no grassland, tree or shrub habitats are located within the study area or in close enough proximity that disturbance from construction activities could affect nesting or roosting activities. The project site occurs in the outer limits of designated critical habitat for the federally threatened vernal pool fairy shrimp, but no suitable vernal pool or seasonal aquatic habitat for this species or critical habitat primary constituent elements were identified in the development footprint since the site is located on an upland hillside with no topographic depressions or swales capable of supporting seasonal aquatic habitat.

Mitigation recommended herein to protect sensitive biological resources includes preconstruction surveys and avoidance for special-status animals such as the San Joaquin kit fox and American badger. Standard measures to avoid project impacts on the San Joaquin kit fox are included on project plans, and may also include the set aside of suitable habitat, payment into the in-lieu fee program or purchasing credits in a conservation bank as mitigation for effects on SJKF habitat.

Other species-specific mitigation prescribed herein include having a qualified biologist conduct a pre-activity survey and designate non-disturbance buffers around potentially active dens should they be observed; biological monitoring during initial vegetation removal and site grading; training workers of the special status resources present in the project area (i.e., Worker Environmental Awareness Program); implementing Best Management Practices and erosion control measures proposed by the project engineer; and, revegetation of graded areas consistent with measures identified on project plans. With the incorporation of the mitigation measures described in this report, project impacts on special-status biological resources will be reduced to a level below significance under CEQA.

1.0 INTRODUCTION

Kevin Merk Associates, LLC (KMA) conducted a biological resources assessment for a proposed agricultural reservoir on an existing vineyard property located approximately one mile northeast of the town of San Miguel in northern San Luis Obispo County, California. The site is located on the approximately 310-acre Rancho de Los Sueños (Assessor's Parcel Number 027-011-010; Property) as identified on the West San Miguel Irrigation and Frost Protection Reservoir Plans prepared by Monsoon Consultants (October 9, 2020). The Property is situated in the southwest section of the U.S. Geological Survey's (USGS) San Miguel 7.5-minute quadrangle map (T 25 S, R 12 E; the northeast corner sits at 35°77'26.31" N, -120°71'99.94"W). The reservoir study area is surrounded by vineyards and agricultural operations, and the larger property is bounded on the north and west by Camp Roberts Army National Guard Installation, and by private land in agricultural use to the south and east. Please refer to Figures 1 and 2 for site location information.

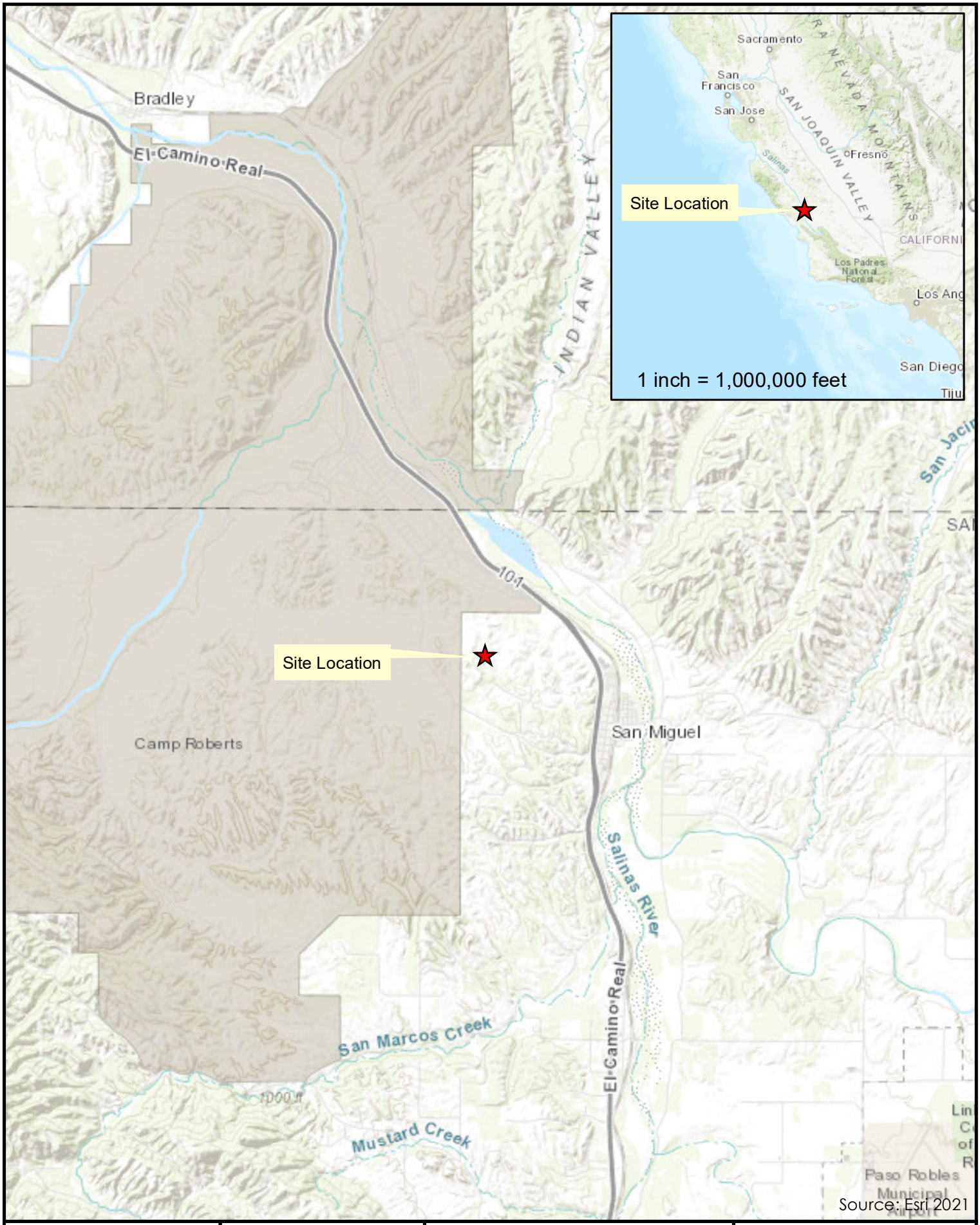
This report was prepared at the request of Vino Farms to provide technical biological resources information to support the County of San Luis Obispo's (County) environmental review process for the proposed reservoir project. This report evaluates the potential for the project site to support special-status biological resources (plants, animals, sensitive natural communities, and designated critical habitat) for the California Environmental Quality Act (CEQA) review being conducted by the County for the project. This BRA evaluates the site's existing natural conditions to determine whether special-status biological resources may be present onsite and could be adversely affected by the proposed project. The following sections detail the methods and results of the investigation.

1.1 Project Description

The proposed project is the construction of an agricultural reservoir for frost protection and irrigation of the vineyard within an agricultural lease area. Please refer to Appendix A for the site plans prepared by Monsoon Consultants (10/9/20). The proposed project is to construct a 9.75-acre feet reservoir on a hillside in areas historically dry-farmed for grains. Approximately 1.75 acres of the site would be disturbed to construct the reservoir, which includes 10,275 cubic yards of cut and 10,169 cubic yards of fill. Any excess soils resulting from construction will remain on the site to be used by the owner. Reservoir slopes would be roughly 2.5:1 and the entire reservoir would be lined and surrounded by chain link fencing. Water will be provided from existing wells on the site, and drainage swales would be installed around the perimeter to maintain surface hydrology around the reservoir. Natural drainage features on the site have been buffered from agricultural activities, and the reservoir would not impact any water course subject to Clean Water Act or California Fish and Game Code requirements. Given historic and current farming activities on the larger Property, no natural habitats are present in the study area and only disturbed or ruderal areas would be affected by the proposed project.

1.2 Regulatory Overview

For the purpose of this report, special-status species are those plants and animals listed, or Candidates for listing, as Threatened or Endangered by the U.S. Fish and Wildlife Service (USFWS) under the federal Endangered Species Act (FESA); those listed as Threatened or Endangered under the California Endangered Species Act (CESA); animals designated as "Species of Special Concern," "Fully Protected," or "Watch List" by the California Department of Fish and Wildlife (CDFW; 2020); plants considered Endangered or Rare under the California Native Plant Protection Act; and, animals considered sensitive that do not have a specific listing status but which are recorded in the California Natural Diversity Database (CNDDB; CDFW 2021a).



KEVIN MERK ASSOCIATES

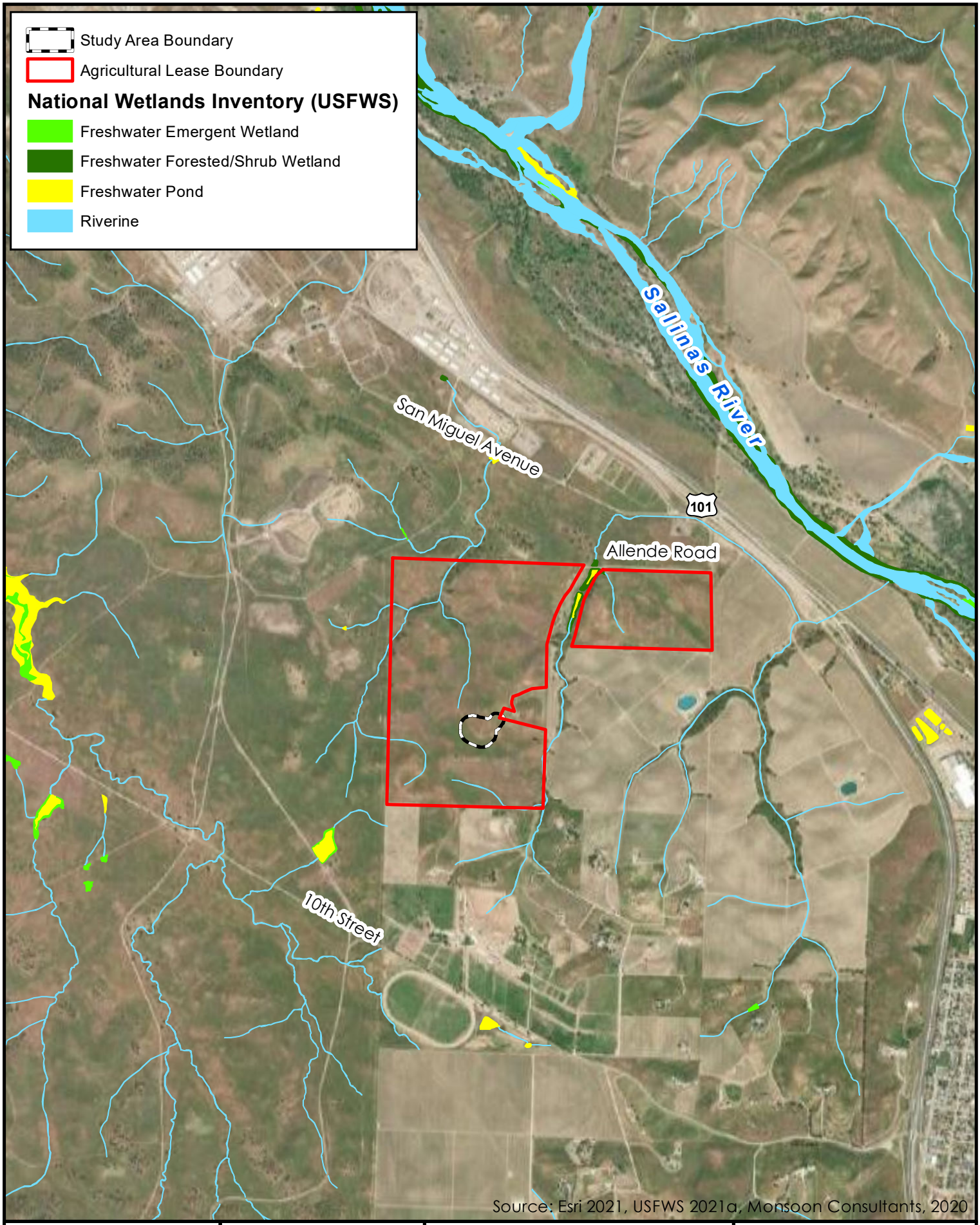
1 inch = 10,000 feet

West San Miguel Reservoir Project

Vino Farms

Figure 1

Site Location Map



KEVIN MERK ASSOCIATES

N W E S

1 inch = 2,000 feet

West San Miguel Reservoir Project

Vino Farms

Figure 2

Aerial Overview Map

FESA provisions protect federally listed species and their habitats from unlawful take, which is defined as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct." Under these regulations, "harm" may include significant habitat modification or degradation that kills or injures wildlife. Candidate species are not afforded legal protection under FESA; however, Candidate species typically receive special attention during the CEQA environmental review process. CESA provides for the protection and preservation of native species of plants and animals that are experiencing a significant decline which if not halted would lead to a threatened or endangered designation. Habitat degradation or modification is not expressly included in the definition of take under CESA.

CDFW maintains a list of Species of Special Concern for those species in which declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as special concern is to halt or reverse their decline early enough to secure their long-term viability. Species of Special Concern may receive special attention during environmental review, but do not have statutory protection. FESA and CESA emphasize early consultation with project proponents and USFWS and CDFW to avoid impacts on Threatened and Endangered species. As part of the consultation process, project proponents are directed to develop appropriate mitigation plans to offset project effects on listed species and their habitats.

Sensitive natural communities are those native plant communities listed in the CNDDB (CDFW 2020a) as rare or of limited distribution. They are evaluated using NatureServe's Heritage Methodology to assign global and state ranks based on rarity and threat, and these ranks are reviewed and adopted by CDFW's (2020b) *Vegetation Classification and Mapping Program* (VegCAMP). Evaluation with the state (S) level results in ranks ranging from 1 (very rare or threatened) to 5 (demonstrably secure). Those with ranks of S1 to S3 are to be addressed in the environmental review process under CEQA (CDFW 2020b).

Critical habitat is designated for species listed under FESA, and are areas that contain the physical or biological features which are essential to the conservation of those species and may need special management or protection. Critical habitat designations affect only federal agency actions or federally funded or permitted activities. Activities by private landowners are not affected if there is no federal nexus.

Rare plants are those defined as occurring on California Rare Plant Rank (CRPR) 1A, 1B, 2A, 2B, 3 and 4 developed by the CDFW working in concert with the California Native Plant Society (CNPS; CDFW 2020c). Rank 4 species are a watch list, and typically do not meet CEQA's rarity definition (Section 15380), but are included here because they may be of local concern. The CRPR definitions are as follows:

- *Rank 1A: Presumed extirpated in California and either rare or extinct elsewhere.* These species are presumed extirpated because they have not been recorded in the wild in California for many years.
- *Rank 1B: Rare, threatened or endangered in California and elsewhere.* Plants that are rare throughout their range and the majority in this rank are endemic to California.
- *Rank 2A: Presumed extirpated in California, but more common elsewhere.* These species are presumed extirpated because they have not been recorded in the wild in California for many years, but they are common outside of the state.

- *Rank 2B: Rare, threatened or endangered in California, but more common elsewhere.* Plants that have ranges that extend into California, where they are rare, but are common in areas outside of the state.
- *Rank 3: Plants needing more information - A review list.* Information necessary to assign the species to one of the lists or reject them is lacking. Most species in this rank are taxonomically unresolved.
- *Rank 4: Plants of limited distribution - A watch list.* Species of limited distribution or infrequent occurrence throughout their range in California but which their vulnerability to extirpation appears low at this time and should be monitored.

Additionally, the CRPR system further assigns threat codes as a decimal extension to the rank, ranging from 1 to 3. CRPR 3 species do not have a threat code due to insufficiency of information needed to assign it, and CRPR 1A and 2A also do not have threat codes because they not know to currently occur in California. The threat code extensions are as follows:

- *.1: Seriously threatened in California.* More than 80% of occurrences are threatened and there is high degree and immediacy of threat.
- *.2: Moderately threatened in California.* Approximately 20 to 80% of occurrences are threatened and there is a moderate degree of immediacy of threat.
- *.3: Not very threatened in California.* Less than 20% of occurrences are threatened and the is a low degree and immediacy of threat, or no current threats are known.

Raptors (e.g., eagles, hawks, and owls) and their nests are protected under both federal and state regulations. Birds of prey are protected in California under the California Fish and Game (2001) Code Section 3503.5. Disturbance that causes nest abandonment or loss of reproductive effort is considered take by CDFW. Eagles are protected under the Bald and Golden Eagle Protection Act. The federal Migratory Bird Treaty Act (MBTA) applies to many bird species, including common species, and prohibits killing, possessing, or trading in migratory birds, including whole birds, parts of birds, bird nests, and eggs. The act restricts construction disturbance during the nesting season that could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment.

CEQA defines a *significant effect on the environment* as "a substantial, or potentially substantial, adverse change in the environment." Projects that may have significant effects are required to be analyzed in an Environmental Impact Report (EIR). Under CEQA, a project's effects on biotic resources are deemed significant where the project would do any of the following:

- Potentially substantially degrade the quality of the environment;
- Substantially reduce the habitat of a fish or wildlife species;
- Cause a fish or wildlife population to drop below self-sustaining levels;
- Threaten to eliminate a plant or animal community;
- Substantially reduce the number or restrict the range of an endangered, threatened, or rare species; or,
- Have possible environmental effects that are individually limited but cumulatively considerable.

In addition to the criteria above that trigger mandatory findings of significance, Appendix G of the CEQA Guidelines includes six additional impacts to consider when analyzing the significance of

project effects, which may or may not be significant, depending on the level of impact. A project's effects on biological resources could be deemed significant if the project would do the following:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.
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 CDFW or USFWS.
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

If the project proponent agrees to mitigation measures or project modifications that would avoid all significant effects or would mitigate the significant effect(s) to a point below the level of significance, an EIR would not be required. The project proponent would be bound to implement the mitigation measures to reduce the project effects to below a level of significance. Mitigation is not required for effects that are less than significant.

2.0 METHODS

This investigation followed the County's (2016) *Guidelines for Biological Resources Assessments*. It included background review and a series of surveys to make the conclusions provided herein. Google Earth aerial imagery was employed in coordination with field surveys to define the current extent of onsite plant communities and assist in identifying potential habitat for special-status species. Prior to conducting this Biological Resources Assessment for the proposed reservoir project, KMA biologists worked with the agricultural lease holder to ensure vineyard development did not impact regulated biological resources such as natural drainages and endangered species such as the San Joaquin kit fox (*Vulpes macrotis mutica*; SJKF). KMA biologists conducted initial surveys of the larger Property in 2018 and 2019 before farming activities commenced. Initial site reconnaissance occurred in the summer 2018 and subsequent field work was conducted in the spring 2019 to delineate onsite drainage features and evaluate the property's botanical and wildlife resources. The extent of drainage features within the agricultural lease area that could be regulated under the Clean Water Act and California Fish and Game Code were delineated on March 26 and 29, 2019. Focused botanical surveys were also conducted in March as well as on April 8 through 11, 2019 to ensure special status plants were not affected by vineyard development. During the April 2019 field work, day and night surveys were also conducted to search for San Joaquin kit fox and evaluate nesting bird activity prior to any surface disturbance.

In support of the reservoir project, a site survey was completed by KMA on December 18, 2019 to collect data for a SJKF habitat evaluation. Project plans were subsequently modified to reduce the size of the reservoir, and the SJKF evaluation was revised on April 16, 2020 and again on February 2, 2021 for inclusion in this report. The revised evaluation is provided as Appendix E. Based on

review of the submitted project plans by the County of San Luis Obispo Planning Department (County), the County requested a Biological Resources Assessment be prepared for the reservoir project that evaluates special status biological resources, not just the SJKF. This report provides the requested information.

As part of the background review, KMA reviewed property-specific information, including soils data available on the U.S. Department of Agriculture's (USDA) Web Soil Survey, historical aerial photographs obtained using Google Earth, and a search and review of the California Natural Diversity Data Base (CNDDB, queried in December 2020 and again in January 2021) within an approximately five-mile radius of the reservoir study area. A larger search of the surrounding USGS quadrangle maps was also conducted to ensure identification of all special status biological resources in the region, and included: Bradley, Wunpost, Valleton, Stockdale Mountain, Ranchita Canyon, Estrella, Paso Robles, and Adelaida. The CNDDB data were used to evaluate the documented occurrences of special-status plant and wildlife species, and natural communities (or plant communities) of special concern in proximity to the proposed reservoir disturbance footprint to determine if any of these resources could be affected by construction of the project.

KMA's Principal Biologist Kevin Merk conducted another survey of the reservoir project study area on December 15, 2020 to assess current conditions. The survey occurred from 0900 to 1100 hours, and weather was clear and cold to start (approximately 40 degrees Fahrenheit), warming to 52 degrees F by the end. During the field survey, the reservoir site was walked and larger vineyard area was inspected via four-wheel drive to evaluate onsite plant communities and search for sign of wildlife. Binoculars were used to identify birds and wildlife activity onsite to help with the overall assessment of the study area's potential to support special-status plant and animal species. Aerial photographs of the larger Property and regional maps were used in the field to identify plant communities in the vicinity of the reservoir study area, and to record other notable observations. Field data collected from site surveys in 2018 and 2019 was also reviewed prior to and after the 2020 field survey.

Dominant plant species in each plant community were determined, and all plant species observed were recorded to a sufficient level to determine rarity (Appendix B). Plant taxonomy followed the Jepson Flora Project (2021), and nomenclature for animals is reported as it appears in the CNDDB (CDFW 2021a) or as updates are available (California Herps 2021). Plant communities and land use types were mapped on ESRI (2021) aerial imagery. Classification of the plant communities on the larger Property was based on Holland's (1986) *Preliminary Descriptions of the Terrestrial Natural Communities of California* and the CDFW's (2020b) *Vegetation Classification and Mapping Program*, which generally follows Sawyer et al.'s (2009) *Manual of California Vegetation*. *A Guide to Wildlife Habitats in California*, which is updated through the California Wildlife Habitat Relationships (CWHR) System (CDFW 2021d), was also cross-referenced. Representative photographs of the study area are provided in a photo plate (Appendix C).

The *Web Soil Survey* (Natural Resources Conservation Service [NRCS] 2021) was used to identify the soil mapping units present within the study area. The *National Wetlands Inventory* (NWI) was examined to evaluate the extent of any identified riverine and wetland habitat on the Property and in the vicinity (USFWS 2021a). USGS topographic maps were also reviewed for information on hydrologic and topographic features. Designated critical habitat for species listed under FESA was identified and mapped based upon information provided in *Environmental Conservation Online System* (USFWS 2021b).

For each of the special-status species identified in the CNDDB search, local distribution and

ecological information was obtained from a variety of online and published sources (Hoover 1970, Jennings and Hayes 1994, Bolster 1998, Moyle et al. 2015, Thompson et al. 2016, Audubon 2021, Calflora 2021, California Native Plant Society 2021, California Herps 2021, The Cornell Lab of Ornithology 2021a, 2021b; CDFW 2021d). Those species that occur within the southern Salinas River Valley in the greater San Miguel - Paso Robles area, as well as each species recorded in the CNDDB within five miles, were considered to be within the project vicinity (Appendix D). Other species from the larger search that have limited distributions restricted to higher elevations in the Santa Lucia Range to the west of the site were considered to be outside of the project vicinity. Based upon our knowledge of the local area and other sources of species occurrence records (particularly observations recorded in Calflora [2021] and The Cornell Lab of Ornithology 2021a), we included additional special-status biological resources that have been known to occur in the region.

For the list of all special-status species known from the project vicinity, an evaluation of those species with potential to occur onsite was performed based upon the suitability of habitat conditions on the Property, and the local distribution (geographical and elevational ranges) and specific requirements (plant communities and soils) of the species considered. As stated above, botanical and wildlife surveys were conducted prior to vineyard development. We relied on our past and current surveys along with known occurrence records in the region to make determinations for the probability of occurrence of each special-status species within the study area. If any special-status species were observed during the site surveys, they would have been listed as "Present" in Appendix D. Those species listed as "Potential" met the following requirements: relatively recent records in the vicinity; appropriate plant community and/or soil associations onsite; and, within the elevational range and local distribution of the species. If any one of these elements was not met or considered to be marginal for the site, but the other elements were present, that species was considered "Unlikely" to occur in the study area. In situations where onsite environmental conditions were clearly inappropriate, the only records in the vicinity were very old and/or imprecise, and/or the species has a limited distribution that does not overlap the site, then those species were considered "Not Expected". If any lifestage of an animal species or particular life history use (i.e., foraging) fit the requirements of the onsite conditions, even while other aspects were inappropriate for certain functions (i.e., breeding), these species were still considered to have potential to occur onsite, but the likelihood of occurring onsite along with a description of site suitability are provided in the Special-status Biological Resources Summary (Appendix D), as well as a more in-depth analysis in the text.

We determined whether potentially jurisdictional wetlands or drainages, special-status plant and animal species, sensitive natural communities, and designated critical habitat could occur on or near the site. We then evaluated the potential impacts of the proposed project on each of these biological resource issues, including the six additional impacts in CEQA Appendix G. An evaluation of significance as defined under CEQA is provided for each potential impact, and mitigation is proposed to reduce impacts to a level below the significance threshold.

3.0 RESULTS

The larger Property, including the agricultural lease area and reservoir site, are accessed via Allende Road off Highway 101 and Mission Street, north of the unincorporated town of San Miguel. The topography of the larger Property is composed of gently sloping valley bottoms and moderate to steep sloping hillsides with mixed aspect. Elevations onsite range from approximately 720 feet above mean sea level (MSL) in the north to approximately 780 feet MSL on the surrounding hillsides. The reservoir site is located on a gentle topographic saddle on a hillside with elevations

ranging from approximately 740 feet MSL to 760 feet MSL. Two drainage features are located outside the study area, one to the northwest and one to the east. Vineyard development was setback from all jurisdictional drainages, and farming activities are a minimum of 50 feet from top of bank and/or woodland vegetation. Drainage corridors supported annual grassland with patchy occurrences of blue oak (*Quercus douglasii*) woodland and savanna. The drainages onsite are ephemeral in nature and appear to contain flowing water only during larger storm events. Other areas on the larger Property but outside the agricultural lease area included two existing residences with associated landscaping, and several ancillary structures (i.e., a barn and shed). Please refer to Figure 2 – Aerial Overview Map and Figure 3 – the Habitat Map. Figure 4 shows the locations of special-status plants recorded in the CNDDB within five miles of the study area. No sensitive natural communities were recorded in the CNDDB within five miles of the site, but based upon our knowledge of the region, those sensitive natural communities that have been documented or observed in the area are evaluated in Appendix D. Figure 5 shows the locations of special-status animals recorded in the CNDDB, and Figure 6 identifies the extent of designated critical habitat within five miles of the study area. Appendix A includes the site plans, Appendix B is a list of plants and wildlife observed during the surveys, Appendix C is a series of photographs of the reservoir site and Appendix D is the Special Status Biological Resources Summary. Appendix E contains the revised SJKF Habitat Evaluation.

3.1 Existing Conditions

The study area occurs in low rolling hills to the west of the Salinas River floodplain in northern San Luis Obispo County. Plant communities in the surrounding area include annual grassland, oak woodland/savanna, and coastal scrub along the drainage corridors. Surrounding land uses are single-family residences on large lots, vineyards, and horse boarding facilities. Camp Roberts is located immediately to the north and west of the subject property, and has a mosaic of blue oak woodland and grassland habitats, with development in the nearby areas. The reservoir study area is situated in between vineyard blocks and is being actively maintained through disking. The agricultural lease area was historically dry farmed, and then was apparently left fallow since the early 1990's until the recent vineyard planting. The fallow fields had reverted to annual grassland dominated by non-native species with scattered coyote brush shrubs. The larger Property was grazed heavily until vineyard development, and maintained ranch roads were present throughout the site. To prepare the property for planting, it was deep-ripped and disked with the addition of amendments. Natural drainage features identified onsite during the 2018 and 2019 surveys were buffered a minimum of 50 feet from agricultural operations. No oak trees or other notable vegetation was present in the reservoir study area prior to vineyard development, and as stated above, the current condition of bare soils is being maintained through regular disking.

3.2 Hydrologic Features, Riparian Habitats and Wetlands

The Property is situated in the southern end of the Salinas River Valley watershed, in the eastern foothills of the Santa Lucia Mountains. Site drainage is generally in a northeast direction towards the Salinas River, which is tributary to the Pacific Ocean. The reservoir site is located on a topographic saddle with half the study area draining towards the east and half draining to the west. Figure 2, the Aerial Overview Map, includes drainage feature/stream overlay data acquired from the USFWS's National Wetland Inventory. This figure shows approximate drainage centerlines and wetland/riparian habitats in the vicinity of the reservoir study area. No drainage features or topographic depressions are present in the reservoir study area. The drainages on the larger Property are ephemeral in nature and appear to support flowing water only during and immediately following large storm events when the ground is saturated. Additionally, the NWI

does not show any wetland areas on the reservoir study area, and no wetland plants were observed in the project area during past surveys of the site (Figure 2).

3.3 Soils

There are only two soil types within the study area. Nacimiento-Los Osos complex, 9-30% slopes and 30-50% slopes. These soil types are residuum from weathered calcareous shale or sandstone, are well-drained, and are not classified as hydric soils (NRCS 2021).

3.4 Habitat Types

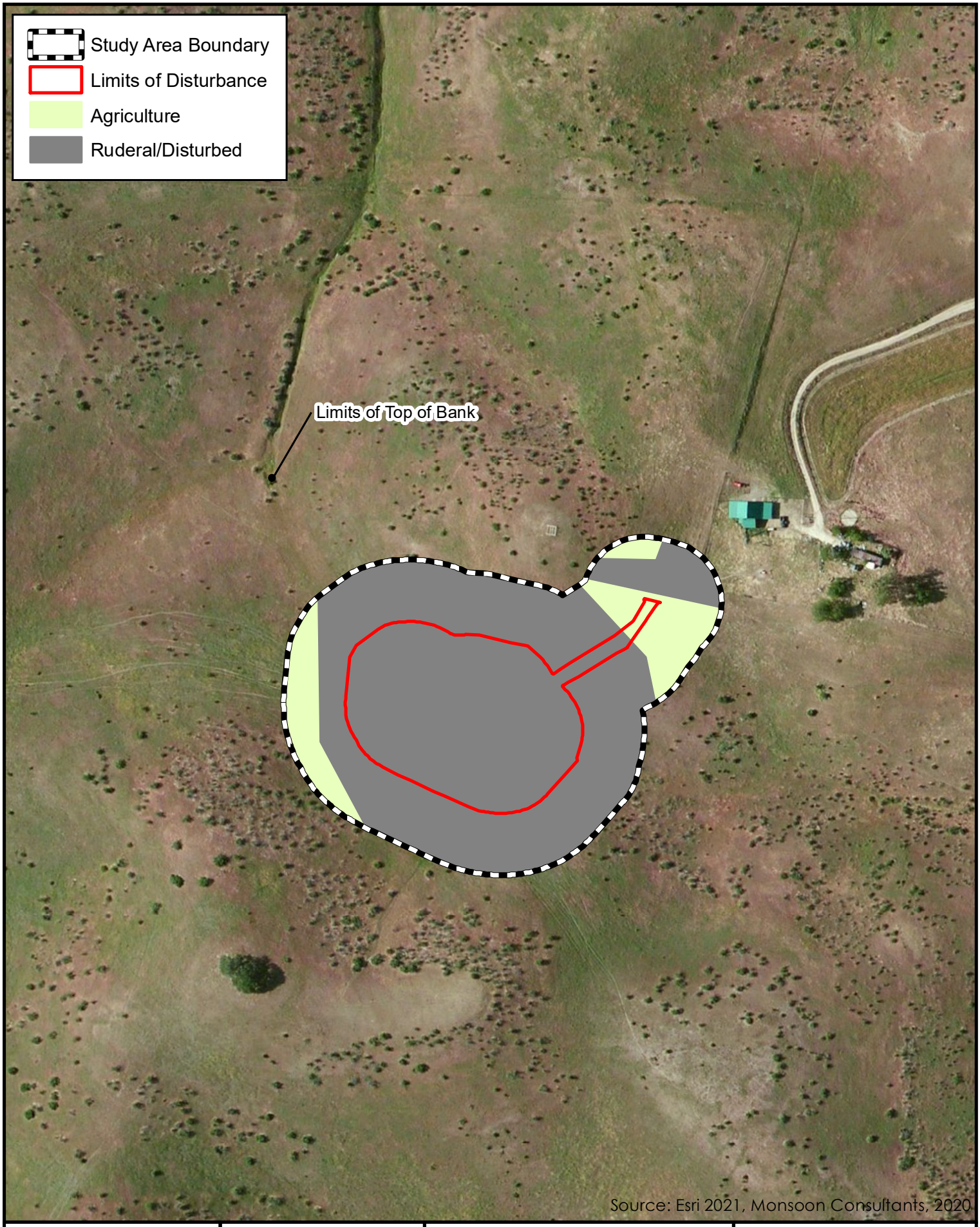
3.4.1 Ruderal/Disturbed and Agriculture

The primary land use type on the Property is agriculture comprised of an active vineyard. The reservoir site is surrounded by vineyard blocks, and small sections of the vineyard extend into the reservoir study area as shown on Figure 3, the Habitat Map. The reservoir study area was mostly bare soils that have been repeatedly disked limiting the extent of surface vegetation. Ruderal and agricultural areas are not natural habitat types and consist of grapes planted along trellises that are irrigated by dripline, agricultural roads, and disturbed bare soils. The entire agricultural lease was historically dry farmed, then left fallow, and then deep ripped and disked in 2019 for planting. The reservoir footprint was not planted at that time, but has been repeatedly disked as part of site maintenance. At the time of the December 2020 survey, the area had been disked with only scattered remnants of annual grasses and forbs present.

During the initial surveys of the site conducted in summer of 2018 and spring of 2019, the vineyard area was composed of weedy annual grasses and scattered coyote brush shrubs typical of old dry farmed fields in the region that have gone fallow. Very low species diversity was noted during the surveys and no bulb-forming plants were observed, which is indicative of dry-farmed grain fields that have repeatedly disturbed the topsoil. Blue oak woodland and savanna are present in select drainage corridors or on steep slopes on the larger Property that were outside the historic farming footprint. Long term dry farming the majority of the site resulted in the re-established grassland dominated by weedy species such as oats (*Avena* spp.), ripgut brome (*Bromus diandrus*), and red-stemmed filaree (*Erodium cicutarium*). Prior to the vineyard development, the site was heavily grazed. Steeper slopes outside the reservoir footprint that were not accessible by the tractor and disk had patchy occurrences of native species such as purple owl's clover (*Castilleja exserta*) and narrow leaf milkweed (*Asclepias fascicularis*).

3.5 Special-Status Biological Resources

The background review revealed a large number of special-status biological resources that have been documented within the project vicinity, primarily on Camp Roberts. The subject property is currently a vineyard (agriculture) and bare soils (ruderal/disturbed) were the primary condition of the reservoir study area. As stated above, historically the site was dry farmed up until roughly 1990. After that time, annual grassland re-established, and some coyote brush shrubs also recolonized the disturbed soils of the old farming footprint. The historic cycle of disturbance from dry farming reduces the potential for special status plants to occur due to the seasonal disking and planting activities. At the time of the 2018 and 2019 surveys, it was noted that no bulb forming plants were present and the grassland had very low species diversity. A clear line from disking disturbance was visible running along the top of the drainage features' banks and at the margins of



KEVIN MERK ASSOCIATES

N W E S

1 inch = 200 feet

West San Miguel Reservoir Project

Vino Farms

Figure 3

Habitat Map

steep slopes. Spring surveys in March and April 2019 searched for special status plants throughout the larger Property, and none were located. Ongoing farming activities have maintained the site in a disturbed condition with the reservoir study area composed solely of weedy, non-native species persisting during the regular disking and other site maintenance. Inspection of the surrounding drainage corridors identified dense thatch of non-native grasses along with occurrences of agricultural weeds such as yellow star thistle (*Centaurea solstitialis*) and Italian thistle (*Carduus pycnocephalus*). The blue oak woodland/savanna habitat along the drainage corridors of the larger Property could provide movement opportunities for larger animals as well as nesting and roosting habitat for avian and bat species, but regular human presence from the farming operation reduces the quality of the habitat for wildlife foraging and movement. The special status biological resources are discussed in further detail below.

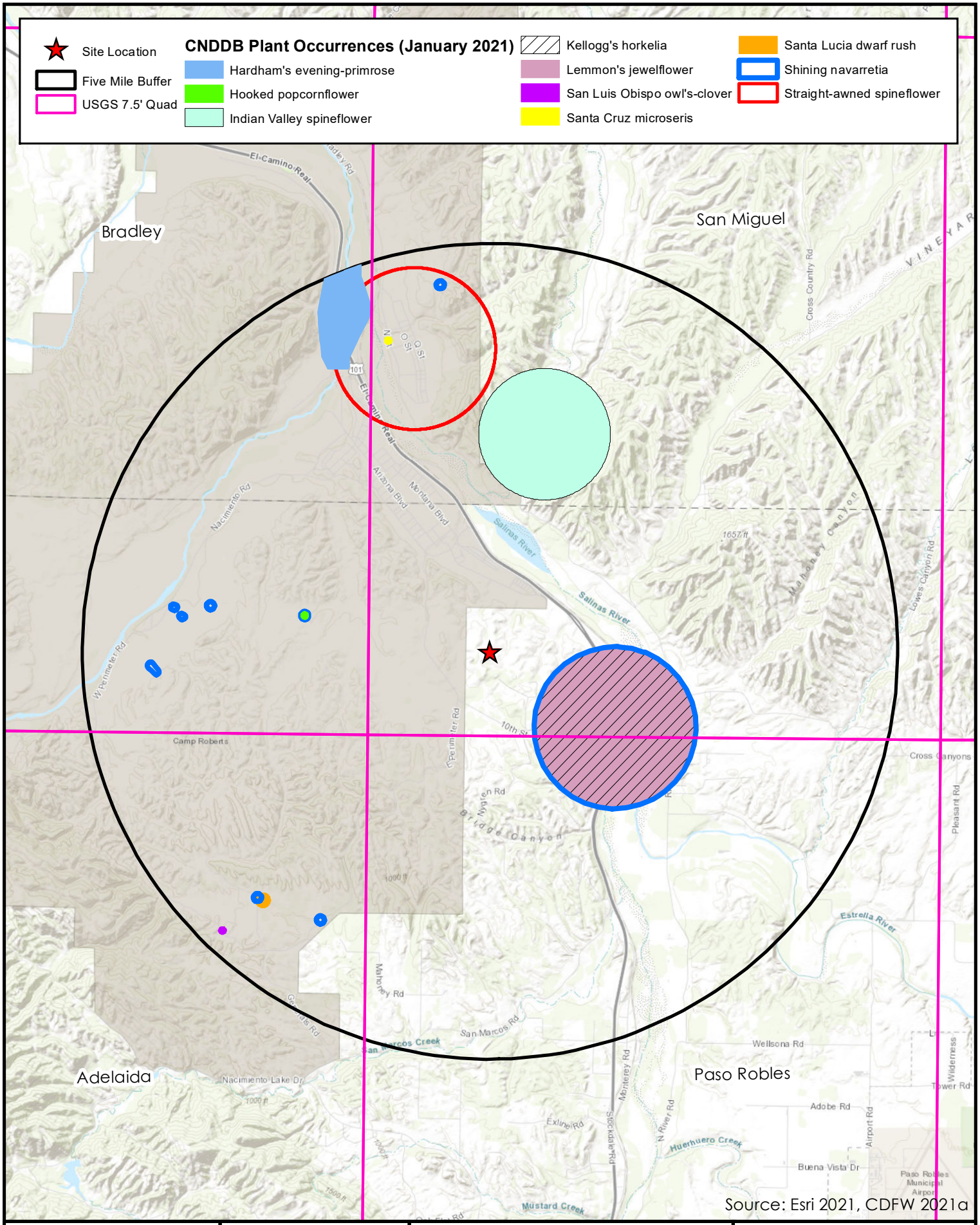
3.5.1 Natural Communities of Special Concern

The CNDDB search did not identify any special status plant communities within five miles of the site. Our knowledge of the area identified six (6) special status plant communities within the general region that were evaluated in this study, which include: California Sycamore Woodlands, Central Coast Arroyo Willow Riparian Forest/Scrub, Coastal and Valley Freshwater Marsh, Vernal Pool, Valley Needlegrass Grassland, and Valley Oak Woodland (Appendix D). None of these special status plant communities was observed in the reservoir study area.

3.5.2 Special-Status Plants

As discussed above, no special-status plant species were observed onsite during the initial site surveys prior to vineyard development. The spring 2019 surveys were conducted in late March and early April when rare annual plants known to occur in the region would have been in flower and in identifiable condition. The onsite grassland was dominated by weedy species as the result of years of disking and dry farming activities, and no rare perennial species were observed. The CNDDB documented occurrences of special-status plant species within five miles of the site (Figure 4), which were cross-checked with observations recorded by Calflora and the Consortium of California Herbaria (2021). Based upon our analysis of the occurrence records, review of species' ecological requirements, and environmental conditions on the reservoir site, no special status plants are expected to occur in the reservoir study area.

Past farming of the site severely reduces the potential for special-status species from occurring on the focused study area or the larger Property. Annual grassland and oak tree habitats in onsite drainages were also searched again in 2020, and these habitats were overrun by non-native species. As stated above, the lack of bulb forming plants and other perennial species is indicative of the disturbance caused by historic farming activities on this site. The drainage corridors have been protected during vineyard development and now consist of dense growth of non-native species, which typically prevents the establishment of native species and outcompetes them for resources (i.e., space, light and nutrients) in the long-term. Given the bare soils and ongoing disturbance associated with farming and maintenance of the reservoir study area, no special status plants are expected to occur on the proposed development footprint and be affected by construction activities. Please refer to Figure 4 and the special status species table included as Appendix D for additional information and a determination for each species evaluated in this study.



KEVIN MERK ASSOCIATES

N W E S

1 inch = 8,000 feet

West San Miguel Reservoir Project

Vino Farms

Figure 4

CNDDB Plant Occurrences Map

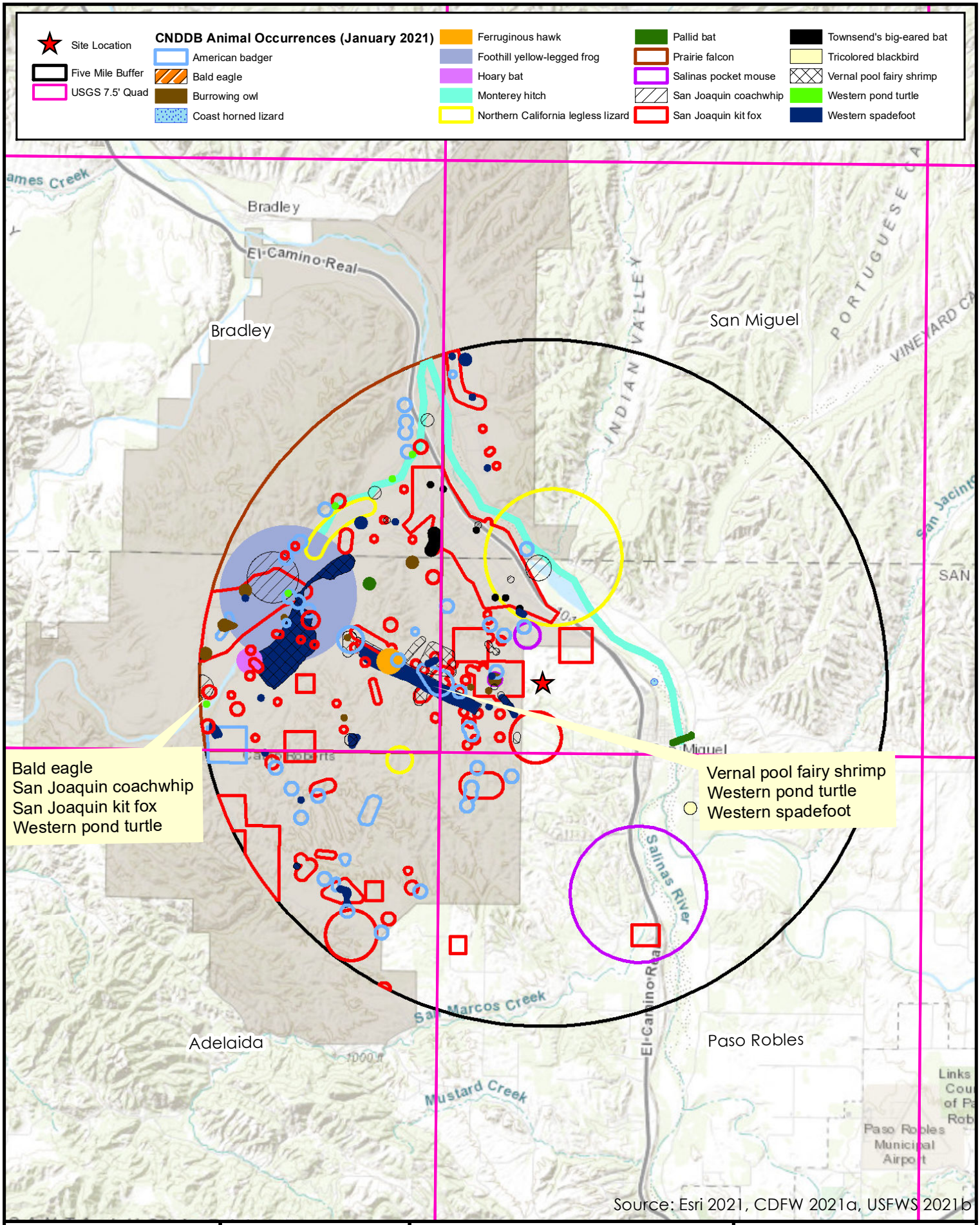
3.5.3 Special-Status Wildlife

The CNDDB contains a number of recorded occurrences of special-status wildlife species in the area, which covered both a five mile buffer around the reservoir study area as well as a larger search identified in the methods section above (Figure 5). Camp Roberts Army National Guard Installation and extensive open space surround the Property, and the Salinas and Estrella River corridors are located nearby increasing the habitat value of the greater area. Most of the species listed in Appendix D, however are not expected to occur onsite based on the lack of suitable habitat and the ongoing farming activities. The reservoir site is small, maintained through disking, and surrounded by active agriculture. Drainage corridors are present in nearby areas on the larger Property, and these zones support annual grassland scattered blue oak trees and coyote brush shrubs, and have no perennial aquatic habitat required by special status amphibians such as the California red-legged frog (*Rana draytonii*) or foothill yellow-legged frog (*Rana boylii*). The drainage corridors could be used by more mobile species for movement and potentially denning, roosting or nesting, but are not high quality wildlife corridors due to ongoing farming and human presence in the area. Special-status wildlife known to occur in the region that could potentially occur within the study area based on site's proximity to suitable habitat are identified in Appendix D, and include the following species:

The **American badger** (*Taxidea taxus*) is a CDFW Species of Special Concern. This species occurs in a variety of open habitats in the region, and prefers grassland, oak savannah and edges of shrubland. They are associated with friable soils in which they dig burrows, typically in areas of ground squirrels that have been preyed upon. Young are born in maternity dens in March and April (CDFW 2020d). Suitable habitat is present in the drainage corridors, but no potential dens were observed during the recent survey. Badgers are highly mobile, and could move through the study area while searching for prey or moving between areas of suitable habitat.

The **hoary bat** (*Lasiurus cinereus*) does not have a specific regulatory status but is recorded in the CNDDB and is on CDFW's (2020) list of Special Animals. This species occurs in open habitats or habitat mosaics along woodland edges. They prey on moths and other flying insects. Roost sites are in dense foliage of large trees, and maternity roosts are in woodlands and forests with medium to large trees. They winter along the coast and in southern California, and breed inland and in northern parts of the state. During migration, males are found in foothills, deserts and mountains, and females in lowlands and coastal valleys (CDFW 2020c). They could potentially roost in nearby oak trees and forage over the site, or occur over the reservoir study area during migration on a transitory basis.

The **pallid bat** (*Antrozous pallidus*) is a CDFW Species of Special Concern. This species forages in a variety of dry, open habitats such as grassland, deserts, woodland, shrubland and coniferous forest. Maternity and winter roosting sites are cavities or caves in rock features, large trees or buildings, and these structures must substantially moderate temperature. Day roosts are in caves, crevasses, mines and occasionally hollow trees or buildings. Night roosts are in more open areas such as porches or agricultural buildings. They forage on beetles, moths, spiders, scorpions and Jerusalem crickets (CDFW 2020d). There are records of the species from the vicinity, and while there is no roosting habitat in the study area, this species could fly over and forage over the reservoir site.



KEVIN MERK ASSOCIATES

N W E S 1 inch = 9,500 feet

West San Miguel Reservoir Project

Vino Farms

Figure 5

CNDDB Animal Occurrences Map

The **San Joaquin kit fox** (*Vulpes macrotis mutica*; SJKF) is federally Endangered and state Threatened. It occurs in grasslands, sparse shrublands, and some agricultural areas where there is flat terrain. SJKF use dens for temperature regulation, shelter, reproduction, and escape from predators, and are usually found in areas with loose-textured sandy soils. They may dig their own dens but often modify and use burrows constructed by other animals such as ground squirrels, badgers, and coyote. They may also use human-made structures (e.g., culverts and abandoned pipes) as dens. SJKF change dens often, such that numerous dens may be used throughout the year and actively used dens may not always show sign of use. The subject property is located at the outer southern edge of a satellite population in the Salinas and Pajaro River watersheds (Camp Roberts/Fort Hunter Liggett) (USFWS 1998, 2010).

While the Carrizo Plain population remains at sustaining levels, the Camp Roberts population severely declined likely as a result of rabies (White et al. 2000). This population declined drastically from 1988 to 1991 and was been thought to possibly be extirpated (White et al. 2000). Additionally, rodenticide poisoning of the population was documented in 1992 (CDFW 2020a). There have been infrequent sightings following the decline, with the most recent observation on Camp Roberts in 2007 (CDFW 2020a). Surveys have continued on Camp Roberts, but none have been found since 2007 (CDFW 2020a). Large areas of suitable habitat remain in the Salinas and Pajaro river satellite area; therefore, it is possible that the population could recover especially if there is continuing linkage with the core population on the Carrizo Plain. Considerable habitat has been lost in the corridor area, however, as a result of urban and vineyard development, with associated fencing and large tracts of crops or urban development, which can be a barrier to SJKF movement.

The current status of SJKF in the corridor area is not well understood. In 2014, SJKF were detected at four locations in the Whitley Gardens area in which bait stations were erected at former known SJKF locations, and scat was collected and identified using DNA analysis. In these situations, SJKF dens and other sign had been documented in the early 1990s, but there were no other detections since then. The bait station/DNA study suggests that SJKF may be present at other locations in the area in which they have not recently been detected by conventional methods. In addition, it also suggests that the eastern Paso Robles corridor may still be in use as a linkage between the Carrizo Plain Core Area and the Camp Roberts satellite area, and the project site falls within this general satellite area. A SJKF Habitat Evaluation for the subject property was prepared by KMA (Appendix E). This study detailed that although historically the SJKF was known to occur in the immediate area of the property, there have been no recorded sightings within three miles within the last ten years. No potential dens or sign (i.e., scat, tracks or prey remains) were observed in the study area during the focused surveys.

While the project site is surrounded by contiguous suitable habitat as defined in the evaluation, the ongoing farming and presence of residential development on large lots to the south reduces the quality of the onsite features for SJKF. Expansive open space areas are present on Camp Roberts to the west and north, which would provide higher quality habitat for this species. The moderate to steep degree of slope on the site may further decrease the chance that SJKF would use the study area since they typically don't use steeper terrains. No California ground squirrels were seen in the reservoir study area during the surveys, but they were seen on adjacent properties. Therefore, while some potential prey may be present in the site vicinity, if SJKF were present in the general area, it is unlikely they would occupy the study area due to only marginally suitable conditions and steeper terrain. They would be more likely to use the large tract of mostly undeveloped habitat on Camp Roberts to the north and west where historic records are located (please refer to Figure 5

and the SJKF Habitat Evaluation in Appendix E), but the chance for transient individuals to occur onsite periodically cannot be ruled out.

Townsend's big-eared bat (*Corynorhinus townsendii*) is a CDFW Species of Special Concern. This species occurs in a variety of habitats, including dry upland areas, semidesert, coniferous forest, and riparian woodland. They prefer foraging along the edges of riparian vegetation and they drink water from ponds. They roost in caves, mines, abandoned buildings and under bridges (Gruver and Keinath 2006). There are several records in the vicinity; primarily near the Salinas River and Nacimiento Lake, with multiple roost sites documented in buildings at Camp Roberts (CDFW 2020a). The agricultural and disturbed/ruderal areas onsite could be suitable for foraging, but there are no aquatic resources onsite, thereby reducing the value of the site as foraging habitat. No suitable roosting habitat is present onsite, but larger trees in the drainage corridors could be used, albeit unlikely. The property is likely in close enough proximity to the Salinas River that they could occur periodically.

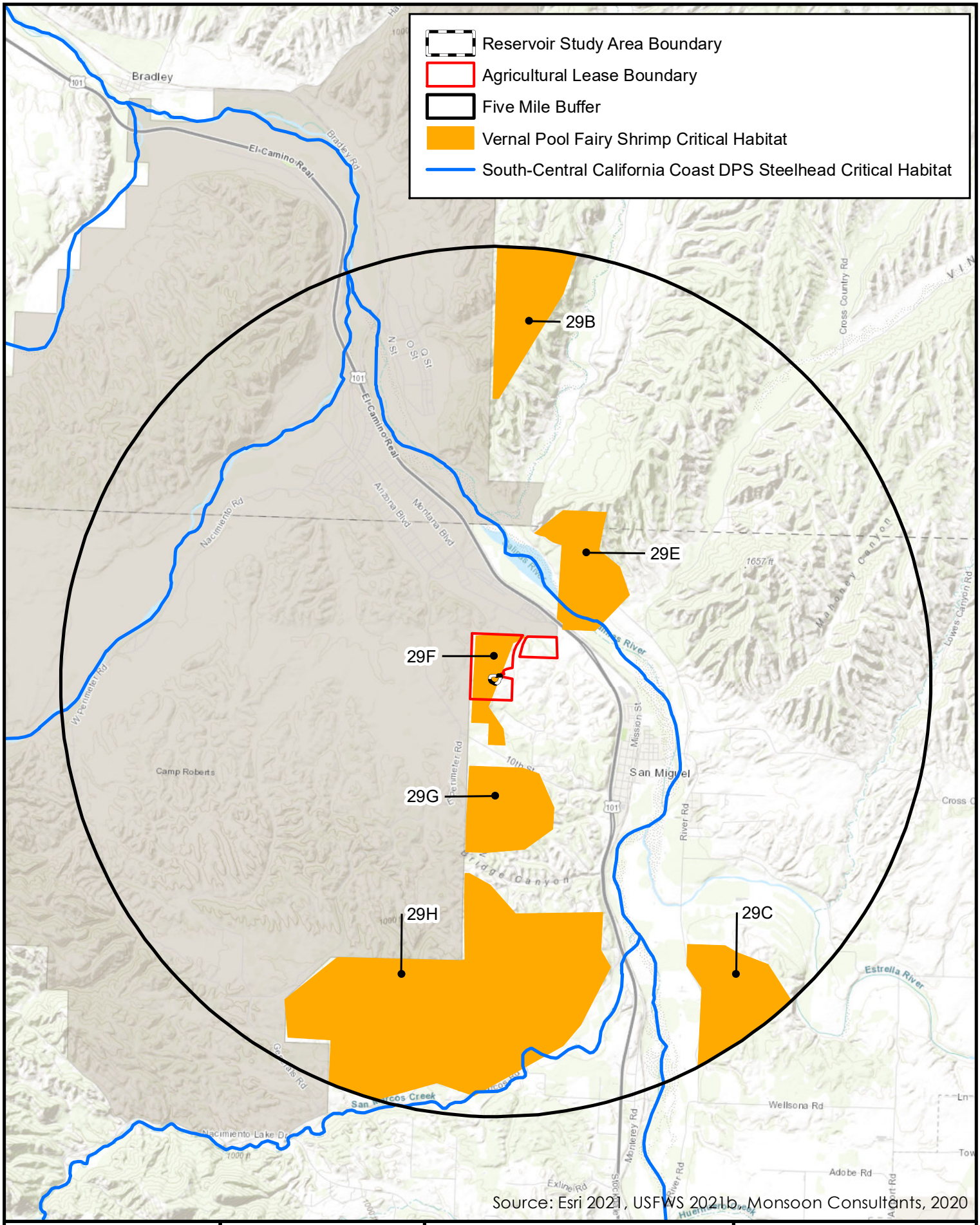
A species of importance that is not expected to occur on the property is the federally Threatened vernal pool fairy shrimp (*Branchinecta lynchi*). This tiny crustacean completes its life cycle in temporary ponded water in various sized topographic depressions typically occurring in grasslands. Vernal pools supporting this species are known to occur in the site vicinity on Camp Roberts (CDFW 2020a). A review of historic aerial photographs did not find any potential vernal pool habitat or areas of prolonged ponded water in the study area that could support this species. The ephemeral drainages bisecting the property did not show signs of flowing water or any changes in vegetation indicative of seasonal ponding that could occur in the channels. Onsite soils are well-drained and past dry farming further increased site drainage and soil permeability by regular disking, thereby reducing the potential for the site to support seasonally ponded habitat that could support this species. Past surveys for vernal pool fairy shrimp on the nearby San Miguel Ranch to the east did not locate fairy shrimp in any of the roadside puddles sampled (K. Merk, personal observation).

3.5.4 Migratory Birds and Raptors

There are numerous bird species with potential to occur in the vicinity that can build nests in nearby trees and shrubs, and potentially fly over or forage on the reservoir study area. Many of the raptors or birds of prey known to occur in the region are species of special concern, and are so listed primarily because their preferred habitats have been fractured and extensively reduced by agriculture and urbanization. Birds of prey such as the golden eagle (*Aquila chrysaetos*) and bald eagle (*Haliaeetus leucocephalus*) have extensive ranges that cover many habitats, and can be expected as rare to common transients in the vicinity of the study area. Given the ongoing farming operations and regular human presence, larger raptor species are unlikely to occur in the reservoir study area, especially considering its small size, lack of prey, and no trees for roosting. The loggerhead shrike (*Lanius ludovicianus)* is known to occur in the general region, and was identified as potentially occurring onsite since it could nest in the trees and shrubs in nearby drainages and forage in the vineyards. Even though they were not listed in the CNDDB, they have the potential to occur onsite based on the presence of suitable habitat in the drainage corridors and could move through the study area while foraging and perch on the nearby vineyard trellises.

3.5.5 Designated Critical Habitat

The property occurs within eastern limits of Unit 29F of designated critical habitat for the vernal pool fairy shrimp (Figure 6; USFWS 2006). However, as described above, the reservoir site is



KEVIN MERK ASSOCIATES

1 inch = 7,500 feet

West San Miguel Reservoir Project

Vino Farms

Figure 6

USFWS Critical Habitat Map

located on a hillside and no seasonal aquatic habitat suitable for the vernal pool fairy shrimp was observed during the site surveys or review of aerial photographs. Vernal pool crustaceans live in swales that collect and hold surface water seasonally, vernal pools (shallow depressions that hold water seasonally), and other ephemeral (short-lived) aquatic habitats such as roadside puddles when present in historic vernal pool regions. They do not occur in riverine habitats (drainages with flowing water), marine areas, or in permanent bodies of water. Vernal pools form where there is a restrictive soil layer below or near the surface that has limited permeability to water, where precipitation and surface runoff becomes "perched" above this layer. These soils include hardpans, claypans, volcanic flows, and non-volcanic rock. Vernal pools are a unique type of wetland habitat in that they are ephemeral, filling after winter rains, and drying completely after the rains have ceased. They are wet long enough to have species composition different from the surrounding upland habitats, and the prolonged dry phase prevents the establishment of typical wetland species. Fish and other predators are excluded by pool drying, and vernal pool communities have developed unique suites of invertebrates and amphibians that have developed in the absence of predators (USFWS 2003).

The primary constituent elements of critical habitat for vernal pool fairy shrimp are habitat components that provide: 1) topographic features characterized by mounds and swales that are intermittently connected, holding surface water for an adequate amount of time for the species' lifecycle (see number 3); 2) isolated vernal pools or depressions underlain with restrictive soil layers that create ponding; 3) these features become inundated after winter rains and hold water for at least 18 days in all but the driest years, but dry seasonally; 4) food sources for vernal pool fairy shrimp, including upland detritus, single-celled bacteria, algae, and dead organic matter; and 5) habitat structure for vernal pool fairy shrimp, including living and dead plants, rocks, and inorganic debris (USFWS 2006). The study area does not provide any topographic depressions or impermeable soil layers that could support ponding water, and none of the primary constituent elements of critical habitat for this species are present onsite.

4.0 IMPACT ANALYSIS AND RECOMMENDED MITIGATION

The following impact analysis and recommended mitigation measures are intended to help guide project planning efforts and support the CEQA review process. The impact discussion addresses the range of impacts that could result from implementation of the proposed project. Direct effects (or impacts), as defined under CEQA, are caused by a project and occur at the same time and place. Indirect effects are caused by a project, but occur at a different time or place. Cumulative effects are those that result from when the effects of the subject project combine with effects from other unrelated projects to compound environmental harm. Our understanding of the extent of proposed development footprint, along with the observations of onsite conditions from the site visits and desktop evaluation of special-status biological resources in the project vicinity, provided the basis for this analysis. Impact statements defining potential impacts on biological resources and proposed mitigation measures to reduce project-related impacts are described.

The larger Property is approximately 310 acres and the reservoir development footprint is approximately 1.75 acres (Monsoon Consultants, 2020). The reservoir site and surrounding areas were farmed historically with grain crops, and are now a vineyard. The reservoir study area was not planted during recent vineyard development, but has been maintained through regular disking over the last two years. Ephemeral drainage features that bisect the larger Property contain grassland and oak tree habitats that would not be affected by the proposed reservoir project. The historic farming and continued regular cycle of disturbance on the reservoir site and larger Property preclude the presence of special status plants and plant communities from being present,

and the reservoir development footprint is composed of bare soils surrounded by vineyard. Only mobile wildlife species could potentially move through or forage in the study area as no suitable nesting or denning habitat is present.

The project plans developed by Monsoon Consultants (10/9/2020) contain a series of Best Management Practices (BMPs) to implement during and after project construction. This includes the use of sediment, erosion and dust controls during construction and post construction slope stabilization by installing fiber rolls on slopes and hydroseeding bare soils with a fast growing native grass mix. As detailed above, the site is located on an upland hillside away from any natural drainage feature. With setbacks of over 50 feet from any drainage feature, construction of the project is not expected to result in impacts to water quality or sediment discharge into drainages from erosion, either during or after construction. Project plans have the SJKF protection measures listed, and additional measures are provided below to reduce project impacts to special status wildlife to a less than significant level pursuant to CEQA.

4.1 Direct and Indirect Effects

4.1.1 Adverse Effects on Candidate, Sensitive or Special-status Species

Project impacts are expected to be restricted to the disturbed agricultural and ruderal land use types onsite. The oak tree, grassland and drainage features on the larger property would be avoided and buffered from construction activities (see Site Plan in Appendix A). Water line and other infrastructure installation to the reservoir site would also occur in agricultural and disturbed areas, and no trees or shrubs would be removed.

A suite of special-status plant and animal species that are known to occur in the site vicinity were evaluated to determine their potential to occur in the study area. As seen in the review of historic aerial photographs and during the field surveys, the property has been disturbed over a long period by dry farming, vineyard development and human presence. The farming activities preclude rare plant species from occurring onsite from the regular cycle of disturbance, which favors non-native plants. While some special-status plant species can tolerate disturbance, the spring surveys conducted in 2019 confirmed the reservoir study area and larger Property do not support rare plant occurrences.

The project site is situated within the outer limits of the SJKF satellite population, and numerous records of the species are present near the site (refer to SJKF Habitat Evaluation in Appendix E). The records within three miles of the site are from before 2002, and the most recent sighting in the vicinity is from 2007. The Camp Roberts satellite population is known to have declined drastically almost to the point of extirpation, but if movement to this large area of suitable habitat occurs, there is potential for the SJKF to become re-established or exist in low numbers that are not detectable under current survey techniques. Therefore, the chance that SJKF could occur in the study area cannot be ruled out, especially considering the amount of available habitat on the adjacent Camp Roberts property and lack of substantial movement barriers. Because the study area has some moderate to steeply sloping hills, it is less likely that SJKF would use the subject property for denning or foraging, since they prefer more less steep terrain. Still, they could move through the site during periods of migration or in search of suitable prey.

The special-status animal species identified as having potential to occur onsite are mobile species that would only use the site periodically while foraging or moving through the area, without using the site for breeding. Species considered to be mobile include foraging birds and bats, as well as the

transitory American badger and SJKF. Because the birds and bats are mobile and are not expected to nest in the reservoir disturbance area due to the lack of trees or shrubs or grassland habitats, they could move away from construction activities. Additionally, foraging behavior of bats is not expected to be affected because construction activities would take place during the day and bats forage at night. Birds and bats could continue to forage over the site after the reservoir is constructed. Vineyards separate the reservoir site from potential nest and roost sites in oak trees and shrubs in the nearby drainage corridors by over 250 feet. While unlikely, a SJKF or American badger could move through the reservoir area and be present when construction activities commence. As such, no direct effects of the project are expected on nesting birds or roosting bats, but the project could affect SJKF and the American badger if they were to be onsite when construction commences.

Overall, there would be no significant negative effect on wildlife habitat as a result of construction of the reservoir project because a minimal amount of disturbed bare soils between vineyard blocks would be lost. Ample areas of grasslands and oak woodland/savanna habitats are present surrounding the project site along the drainage corridors as well as on Camp Roberts and the large acreage residential lots surrounding the site. The project site occurs within designated critical habitat for the vernal pool fairy shrimp, but lacks the primary constituent elements of critical habitat and no potentially suitable habitat for VPFS or other listed branchiopods was present since no pools or areas of seasonally ponded water were identified. Project effects on wildlife habitat are discussed in further detail below.

Impact Bio-1. Project development could impact the San Joaquin kit fox (SJKF), including the loss of potential habitat within the historic satellite population and direct impacts on individuals, should they be present in the project site. This is anticipated to be a significant but mitigable impact pursuant to CEQA.

Maintaining the integrity of satellite populations are important components to the recovery strategy for SJKF, and project sites that fall within the historic geographic distribution of the species are subject to mitigation under CEQA. The County of San Luis Obispo has implemented a process for discretionary projects proposed within the SJKF habitat area, which involves completing a SJKF Habitat Evaluation to determine an appropriate mitigation ratio to compensate for the loss of SJKF habitat. In addition, projects in the range of the SJKF must incorporate measures to reduce the chance of impacts on individual SJKF, should they occur within areas affected by project construction. These measures are discussed in detail below, and are required under CEQA to reduce project impacts to a level below significance.

Mitigation Measure BIO-1a: Provide mitigation for the loss of SJKF habitat. Mitigation is required for the loss of potential SJKF habitat, and is calculated as a function of the project's total area of permanent disturbance. A SJKF Habitat Evaluation for this project was prepared, which determined a score of 68 points out of 100, equating to a 2:1 mitigation ratio (KMA revised 2021; Appendix E). The CDFW will review this determination and confirm that the final mitigation ratio is in fact 2:1 for impacts to an estimated 1.75 acres of SJKF habitat equating to total compensatory mitigation required of 3.5 acres. Mitigation may be in the form of protection in perpetuity of 3.5 acres of suitable SJKF habitat onsite or offsite within the kit fox corridor area; payment into the in-lieu fee program administered by The Nature Conservancy (the total amount assuming 1.75 acres of impact at a 2:1 ratio would be $7,000); or, by purchasing 3.5 credits in an approved conservation bank in San Luis Obispo County (County 2007; CDFW 2020d). Selection of which of these three options that would be used for compensatory mitigation for the project should be discussed with the County,

and must be adhered to as a condition of approval to reduce effects to a level below significance under CEQA.

Mitigation Measure BIO-1b: Implement measures to avoid impacts on individual SJKF. To avoid impacts on individual SJKF, the USFWS (2011) *Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior to and During Ground Disturbance* should be implemented (contained in the Habitat Evaluation included in Appendix E and on project plans). These measures include a preconstruction survey to be conducted by a qualified biologist prior to any site development. This preconstruction survey will involve a search for potential dens, and be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance. If possible based upon the size of the site and configuration of construction activities, fenced exclusion zones shall be established by the biologist around all known and potential kit fox dens. Exclusion zone fencing shall consist of survey laths or wooden stakes prominently flagged with survey ribbon, silt fencing or orange construction fence. Each exclusion zone shall be roughly circular in configuration with a radius of the following distance measured outward from the den entrances:

a) Potential kit fox den: 50 feet
b) Atypical den: 50 feet
c) Known or active kit fox den: 100 feet
d) Natal/pupping den: to be determined by USFWS, but at least 200 feet minimum.

All foot and vehicle traffic, as well as all construction activities, including storage of supplies and equipment, shall remain outside of exclusion zones. Exclusion zones shall be maintained until all project-related disturbances have been terminated, and then shall be removed. If it is not possible to avoid all known and potential kit fox dens with the above-stated exclusion zones, dens must be monitored to determine whether they are active, and inactive dens destroyed. Destruction of a den is typically done by carefully excavating the den until it is confirmed that no kit foxes are occupying the den. Hand excavation is the recommended method for destroying a den, but may be difficult in compacted soils during the dry summer months. Use of excavating equipment can be done with extreme caution and while being monitored by a qualified biologist. After it is confirmed that no SJKF are present in the den, the excavation is filled with dirt and compacted to make sure kit foxes cannot re-enter or use the den during construction. If a kit fox is discovered inside the den during the excavation activities, then excavation should cease immediately and monitoring of the den re-initiated. Den destruction may proceed once it is determined that the kit fox has left the den.

Impact Bio-2. Project construction activities could impact the American badger, a species of special concern. This is a potentially significant but mitigable impact.

American badgers are highly mobile and could move through the area in search of prey. They could also have dens on or near the site in which they raise their young or utilize for refuge. Maternal or natal dens may be occupied in the spring and summer. Adults that are not raising young may be present in dens during the daytime at any time of year. Construction equipment or activities could injure or kill individuals in work areas. Ground-disturbing activities could remove dens or burrows used by these species. To reduce potential project impacts on the American badger to a level below significance, the following Mitigation Measures BIO-2a through 2f are required and can be implemented concurrently with measures identified under Impact Bio-1.

Mitigation Measure BIO-2a: Conduct a preconstruction wildlife survey and avoid construction in any areas with special-status wildlife species. At least one week (7 days) prior to the start of grading, a

qualified biologist shall survey all temporary and permanent impact areas for the American badger. Construction activities can begin once it has been determined that there are no special-status wildlife species within impact areas. If any special-status wildlife species are found within the impact area or would otherwise be at risk during construction, work activities shall be delayed in that particular area and the animal allowed to leave the work zone on its own volition. The biologist shall monitor the area to determine when the individual(s) has left and work can commence.

The survey shall cover the project impact area plus a 50-foot buffer for burrows occupied by the American badger. Any potential dens found shall be marked in the field with flagging, and a 50-foot no-work buffer shall be flagged. If the potential den cannot be avoided with at least a 50-foot buffer, the following mitigation measure would also be required.

Mitigation Measure BIO-2b: If any potential American badger dens are found, employ wildlife trail cameras and/or track plates to determine whether they are active, and excavate non-active dens to prevent re-occupation. A qualified biologist shall install wildlife trail camera(s) and/or tracking medium outside any potential dens that are found during the preconstruction survey, and monitor those sites daily for at least three nights to determine whether the den(s) are currently occupied. This is consistent with the mitigation measures prescribed for SJKF above. Any unoccupied dens shall be excavated to prevent American badgers from re-entering. If the work takes place in the late-spring or summer, additional measures shall be employed to determine whether dens are occupied by badger young. No dens with young shall be disturbed, and no work shall be conducted within 50 feet of maternal dens, until they have left the den. Any occupied dens that are being used by a single adult with no young that cannot be avoided shall be blocked incrementally by placing sticks and debris over the entrance for three to five days, to discourage the animal from using the den. Only after the animal has left the den, as determined by the qualified biologist, can the den be excavated and work proceed.

Mitigation Measure BIO-2c: Utilize escape ramps in all excavations and trenches that are left open overnight or conduct daily pre-activity surveys of these sites. During the period that any excavations are to be left open overnight, an escape ramp shall be created by leaving a 2:1 or softer slope in one of the ends to allow animals the ability to get out of the excavation area if they fall in. If an escape ramp cannot be used, then a qualified biologist shall inspect excavation areas each day prior to the start of work. If any wildlife or special-status animal species are found, they shall be captured and relocated out of harm's way. All authorizations shall be obtained from appropriate regulatory agencies to relocate the animal to suitable habitat away from project activities. Work shall be halted in the specific area until the entrapped animal has been relocated.

Mitigation Measure BIO-2d: Prepare and present a Worker Environmental Awareness Program. A qualified biologist shall prepare a Worker Environmental Awareness Program that will be presented to all project personnel. This program shall detail measures to avoid and minimize impacts on biological resources. It shall include a description of special-status species potentially occurring on the project site and their natural history; the status of the species and their protection under environmental laws and regulations; and, the penalties for take (i.e., harm, harass, injure, kill). Recommendations shall be given as to actions to avoid take should a special-status species be found on the project site.

Implementation of the above mitigation measures would reduce project effects to the American badger to a less than significant level.

Impact Bio-3. The project site is located within designated critical habitat for the vernal pool fairy shrimp. This is anticipated to be a less than significant impact and no mitigation is required.

The project site falls within Unit 29F of designated critical habitat for vernal pool fairy shrimp. No suitable habitat for vernal pool fairy shrimp occurs onsite. The onsite topography is sloping and lacks topographic depressions supporting seasonally ponded water, and the soils are well-drained and lack a claypan or hardpan layer that could perch water at the surface. The drainage features onsite are outside the reservoir study area, and would be avoided and buffered by the project. The primary constituent elements of critical habitat for vernal pool fairy shrimp are absent from the site. Therefore, there would be no adverse effects of the project on critical habitat for this species.

4.1.2 Adverse Effects on Riparian Habitat or Sensitive Natural Communities

No riparian habitat or sensitive natural communities occur within or adjacent to on the proposed project impact area. The agricultural and ruderal/disturbed areas within the project development footprint are not considered to be sensitive or of special regulatory status. No indirect effects, such as runoff of sediment or pollutants, are expected to occur on drainage features outside the reservoir disturbance zone because the drainage features would be buffered from work by a minimum of 50 feet. Therefore, impacts on riparian habitat or sensitive natural communities are not expected to occur as a result of the project, and no mitigation is required.

4.1.3 Federally Protected Wetlands

No wetland habitat is present on the reservoir study area or in adjacent areas. The site is located in a dry, upland area where there are no areas capable of ponding water that could support wetland plant species. Therefore, the project would have no effect on federally protected wetlands, and no mitigation is required.

4.1.4 Interference with Movement of Native Fish or Wildlife, Wildlife Corridors, and Wildlife Nursery Sites

The proposed project would not affect the movement of native fish because all work will be conducted in upland habitat, outside of any stream channel. No drainages are near the site with habitat conditions that could support fish.

The project site is located in an area in which there are ample corridors for wildlife movement, including the protected drainage features and associated grassland and oak tree habitats. The adjacent Camp Roberts is a large tract of mostly undeveloped land that is subject to land management activities to support wildlife use. Other properties surrounding the site are vineyards and large lots with a small fraction of dispersed residential development, creating a mosaic of habitat patches that can be used for wildlife movement. The project will involve construction of a reservoir with a perimeter fence, which would prevent the movement of medium- to large-mammals while not affecting movement of invertebrates, birds, bats, or reptiles. The small footprint of the proposed fenced area (approximately 1.75 acres) is not expected to affect wildlife corridors due to its small size and ample natural or semi-natural habitat areas surrounding the project site. Although the site occurs within the historic satellite population of the SJKF, the amount of slope on the site makes it unlikely to be used by this species should it ever re-colonize the area. With mitigation described herein to compensate for the loss of potential SJKF habitat and ensure

SJKF individuals are not directly affected during construction, which will also benefit other wildlife species, there would be no negative impacts of the project on wildlife corridors or movement.

The disturbed agricultural and ruderal habitats in the project impact area are not expected to be a wildlife nursery site for any species. Wildlife species that could breed in the area are not expected to occur in the impact area due to ongoing disking and surface disturbance. The majority of wildlife in the greater area would be dispersed throughout the abundant grassland and oak tree habitats on Camp Roberts to the north and west, and not focused in the project area for reproduction or other key life history stages. Therefore, there would be no impact of the project on wildlife nursery sites.

Because there would be no project impacts on the movement of native fish or wildlife, wildlife corridors or wildlife nursery sites, no mitigation is required.

4.1.5 Conflicts with Local Policies or Ordinances, Such as Tree Preservation

The project does not involve the removal of any oak trees, and furthermore, no oak trees occur in the proposed development area. The property falls within the North County Planning Area, and lies inside of the Salinas River Subarea. No Land Use Element Combining Designations are shown to occur in this area on the Rural Combining Designation Map, and the property is located outside of the Coastal Zone. The Land Use Category for which the property is located is Agriculture. The project would be consistent within lands zoned for Agriculture.

Because there would be no conflicts with local policies or ordinances related to biological resources, no mitigation is required.

4.1.6 Conflicts with Local, Regional or State Conservation Plans

No local, regional or state conservation plans have been prepared for the area in which the project is located; therefore, there would be no conflicts with these plans and no mitigation is required.

4.2 Cumulative Effects

The project is sited in a rural agricultural area of inland northern San Luis Obispo County. Agricultural and ruderal/disturbed land uses within the study area are not considered to be sensitive natural communities, and are widespread in the local area surrounding the project site. The loss of a small amount of these areas (1.75 acres) would not be significant from a biological perspective. The land surrounding the project site within the subject property will continue to provide protected drainage corridors suitable for grassland and oak woodland species. Compensatory mitigation will be provided for the loss of SJKF habitat, which will also benefit other species with similar habitat requirements. With protection measures identified on project plans and mitigation incorporated as described herein, no significant effects on biological resources are expected to occur as a result of project implementation. Because there would be no effects of the project in the context of the site's importance in the overall area, the project would not contribute to cumulative effects of other non-federal projects planned in the area.

5.0 CONCLUSIONS

The project involves the construction of a reservoir on an agricultural property that has been historically dry-farmed for hay and was recently planted to vineyard. The project site consists of disturbed agricultural areas, with bare soils and planted grape vines. The drainage corridors on the

larger Property contain weedy plants and scattered blue oak woodland and savanna. No sensitive natural communities occur within or near the project area. The site is located in dry upland habitat, and there are no topographic depressions in the project development area that can hold standing water, and no riparian or wetland habitat is within the project site or in the surrounding area. The drainage features in the project area are ephemeral and had no signs of flowing water present. The drainages are buffered from agricultural operations by a minimum of 50 feet, and would not be affected by the reservoir project. The analysis provided herein determined that no rare or special status plants are present onsite, and none are expected to occur due to the historic farming activities and dominance of non-native grasses and forbs prior to vineyard development.

The site occurs within the historic satellite population of the SJKF, and the SJKF habitat evaluation process determined that a 2:1 mitigation ratio would be required for affects to potential SJKF habitat that would be lost. The American badger also has the potential to occur within the project impact area. Mitigation for the SJKF and badger includes preconstruction surveys; avoidance of the species if found onsite and establishment of no-work buffer zones, if appropriate. Worker environmental training presented by a qualified biologist is also recommended along with regular biological monitoring. If escape ramps cannot be installed in excavation areas, then daily monitoring of excavations shall be conducted by a qualified biologist. Ultimately, none of the biological resources criteria under CEQA which trigger a mandatory finding of significance were met by this project. With the incorporation of the mitigation measures described herein, project impacts on special-status biological resources would be reduced to a level below significance under CEQA.

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APPENDIX A

Site Plans

KMA

GRADING & EROSION CONTROL PLANS

WEST SAN MIGUEL IRRIGATION & FROST PROTECTION RESERVOIR

APN 027-011-010
SAN LUIS OBISPO COUNTY, CA

SAN LUIS OBISPO COUNTY GENERAL NOTES - REQUIRED

1. ALL GRADING CONSTRUCTION SHALL CONFORM TO THE APPLICABLE CODES LISTED ON THIS SHEET. (12a&b)
A PRE-CONSTRUCTION MEETING IS REQUIRED WITH THE COUNTY INSPECTOR TO GO OVER SPECIAL INSPECTION REPORTING REQUIREMENTS, STRUCTURAL OBSERVATION (LINER), EROSION & SEDIMENTATION CONTROL, AND REPORTS REQUIRED.
CALL MICHELLE FREEMAN 781-5707
2. DUST CONTROL IS TO BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
3. AREAS OF FILL SHALL BE SCARIFIED, BENCHING AND RECOMPACTED PRIOR TO REPLACING FILL AND OBSERVED BY A SOIL OR CIVIL ENGINEER.
4. FILL MATERIAL WILL BE RECOMPACTED TO 90% OF MAXIMUM DENSITY.
5. REMOVE ANY DELETERIOUS MATERIAL ENCOUNTERED BEFORE PLACING FILL.
6. NO CUT OR FILL SLOPES WILL BE CONSTRUCTED STEEPER THAN TWO HORIZONTAL TO ONE VERTICAL (2:1).
7. ALL DISTURBED AREA SHALL BE HYDRO SEEDED OR PLANTED WITH APPROVED EROSION CONTROL VEGETATION AS SOON AS PRACTICAL AFTER CONSTRUCTION IS COMPLETE.
8. MINIMUM SETBACK TO CREEKS AND BLUFFS SHALL BE MAINTAINED. MINIMUM SETBACK OF TWO FEET FROM ALL PROPERTY LINES WILL BE MAINTAINED FOR ALL GRADING.
9. MINIMUM SLOPE AWAY FROM BUILDINGS SHALL BE 2% FOR THE FIRST THREE FEET AROUND PERIMETER.
10. AN APPROVED EROSION CONTROL PLAN WILL BE REQUIRED TO BE SUBMITTED, APPROVED AND IMPLEMENTED AT ALL TIMES.
11. THE COUNTY POLICY REGARDING PAD CERTIFICATION SHALL BE FOLLOWED. A SOIL OR CIVIL ENGINEER TO DETERMINE GRADING PERFORMED IS IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED PLANS AND IS SUITABLE TO SUPPORT THE INTENDED STRUCTURE(S). (8)
12. WRITTEN VERIFICATION IS NEEDED FROM SOILS ENGINEER THAT THE FINAL PLANS HAVE BEEN REVIEWED AND FOUND TO BE CONSISTENT WITH THE SOILS REPORT.

KIT FOX SPECIAL REQUIREMENTS

BR-1. SAN JOAQUIN KIT FOX - RETAINING QUALIFIED PROJECT BIOLOGIST. PRIOR TO ISSUANCE OF GRADING AND/OR CONSTRUCTION PERMITS, THE APPLICANT SHALL PROVIDE EVIDENCE THAT THEY HAVE RETAINED A QUALIFIED BIOLOGIST ACCEPTABLE TO THE COUNTY. THE BIOLOGIST SHALL PERFORM THE FOLLOWING MONITORING ACTIVITIES:
a. PRIOR TO ISSUANCE OF GRADING AND/OR CONSTRUCTION PERMITS AND WITHIN 30 DAYS PRIOR TO INITIATION OF SITE DISTURBANCE AND/OR CONSTRUCTION, THE BIOLOGIST SHALL CONDUCT A PRE-ACTIVITY (I.E. PRE-CONSTRUCTION) SURVEY FOR KNOWN OR POTENTIAL KIT FOX DENS AND SUBMIT A LETTER TO THE COUNTY REPORTING THE DATE THE SURVEY WAS CONDUCTED, THE SURVEY PROTOCOL, SURVEY RESULTS, AND WHAT MEASURES WERE NECESSARY (AND COMPLETED), AS APPLICABLE, TO ADDRESS ANY KIT FOX ACTIVITY WITHIN THE PROJECT LIMITS.
b. THE QUALIFIED BIOLOGIST SHALL CONDUCT WEEKLY SITE VISITS DURING SITE-DISTURBANCE ACTIVITIES (I.E. GRADING, DISKING, EXCAVATION, STOCK PILING OF DIRT OR GRAVEL, ETC.) THAT PROCEED LONGER THAN 14 DAYS, FOR THE PURPOSE OF MONITORING COMPLIANCE WITH REQUIRED 'PROJECT CONSTRUCTION CONDITIONS' BR-2. SITE- DISTURBANCE ACTIVITIES LASTING UP TO 14 DAYS DO NOT REQUIRE WEEKLY MONITORING BY THE BIOLOGIST UNLESS OBSERVATIONS OF KIT FOX OR THEIR DENS ARE MADE ON-SITE OR THE QUALIFIED BIOLOGIST RECOMMENDS MONITORING FOR SOME OTHER REASON (SEE BR-2-C3). WHEN WEEKLY MONITORING IS REQUIRED, THE BIOLOGIST SHALL SUBMIT WEEKLY MONITORING REPORTS TO THE COUNTY.
c. PRIOR TO OR DURING PROJECT ACTIVITIES, IF ANY OBSERVATIONS ARE MADE OF SAN JOAQUIN KIT FOX, OR ANY KNOWN OR POTENTIAL SAN JOAQUIN KIT FOX DENS ARE DISCOVERED WITHIN THE PROJECT LIMITS, THE QUALIFIED BIOLOGIST SHALL RE-ASSESS THE PROBABILITY OF INCIDENTAL TAKE (E.G. HARM OR DEATH) TO KIT FOX. AT THE TIME A DEN IS DISCOVERED, THE QUALIFIED BIOLOGIST SHALL CONTACT THE U.S. FISH AND WILDLIFE SERVICE AND CDFW FOR GUIDANCE ON POSSIBLE ADDITIONAL KIT FOX PROTECTION MEASURES TO IMPLEMENT AND WHETHER OR NOT A FEDERAL AND/OR STATE INCIDENTAL TAKE PERMIT IS NEEDED. IF A POTENTIAL DEN IS ENCOUNTERED DURING CONSTRUCTION, WORK SHALL STOP UNTIL SUCH TIME THE U.S. FISH AND WILDLIFE SERVICE/DEPARTMENT DETERMINE IT IS APPROPRIATE TO RESUME WORK.
IF INCIDENTAL TAKE OF KIT FOX DURING PROJECT ACTIVITIES IS POSSIBLE, BEFORE PROJECT ACTIVITIES COMMENCE, THE APPLICANT MUST CONSULT WITH THE U.S. FISH AND WILDLIFE SERVICE AND CDFW (SEE CONTACT INFORMATION BELOW). THE RESULTS OF THIS CONSULTATION MAY REQUIRE THE APPLICANT TO OBTAIN A FEDERAL AND/OR STATE PERMIT FOR INCIDENTAL TAKE DURING PROJECT ACTIVITIES. THE APPLICANT SHOULD BE AWARE THAT THE 1) PRESENCE OF KIT FOXES OR 2) KNOWN OR POTENTIAL KIT FOX DENS AT THE PROJECT SITE COULD RESULT IN FURTHER DELAYS OF PROJECT ACTIVITIES.
IN ADDITION, THE QUALIFIED BIOLOGIST SHALL IMPLEMENT THE FOLLOWING MEASURES:
d. WITHIN 30 DAYS PRIOR TO INITIATION OF SITE DISTURBANCE AND/OR CONSTRUCTION, EXCLUSION ZONE BOUNDARIES SHALL BE ESTABLISHED AROUND ALL KNOWN AND POTENTIAL KIT FOX DENS. EXCLUSION ZONE BOUNDARIES SHALL CONSIST OF EITHER LARGE FLAGGED STAKES CONNECTED BY ROPE OR CORD, OR SURVEY LATHS OR WOODEN STAKES PROMINENTLY FLAGGED WITH SURVEY RIBBON. EACH EXCLUSION ZONE SHALL BE ROUGHLY CIRCULAR IN CONFIGURATION WITH A RADIUS OF THE FOLLOWING DISTANCE MEASURED OUTWARD FROM THE DEN OR BURROW ENTRANCES:
1. POTENTIAL KIT FOX DEN: 50 FEET
2. KNOWN OR ACTIVE KIT FOX DEN: 100 FEET
3. KIT FOX PUPPING DEN: 150 FEET
e. ALL FOOT AND VEHICLE TRAFFIC, AS WELL AS ALL CONSTRUCTION ACTIVITIES, INCLUDING STORAGE OF SUPPLIES AND EQUIPMENT, SHALL REMAIN OUTSIDE OF EXCLUSION ZONES. EXCLUSION ZONES SHALL BE MAINTAINED IN GOOD WORKING ORDER UNTIL ALL PROJECT-RELATED CONSTRUCTION ACTIVITIES HAVE BEEN TERMINATED. AT SUCH TIME THESE BOUNDARY MARKERS SHALL BE REMOVED.
IF KIT FOXES OR KNOWN OR POTENTIAL KIT FOX DENS ARE FOUND ON SITE, DAILY MONITORING DURING GROUND DISTURBING ACTIVITIES SHALL BE REQUIRED BY A QUALIFIED BIOLOGIST.

BR-2. SAN JOAQUIN KIT FOX – PROJECT CONSTRUCTION CONDITIONS. PRIOR TO ISSUANCE OF GRADING AND/OR CONSTRUCTION PERMITS, THE APPLICANT SHALL INCORPORATE THE FOLLOWING MEASURES PRIOR TO AND DURING CONSTRUCTION. ALL OF THESE MEASURES SHALL BE PLACED ON APPLICABLE CONSTRUCTION DRAWINGS. IN ADDITION, AN EDUCATIONAL TRAINING PROGRAM SHALL BE IMPLEMENTED FOR ALL ON-SITE CONSTRUCTION PERSONNEL.
a. CLEARLY DELINEATE AS A NOTE ON THE CONSTRUCTION DRAWINGS THAT: "SPEED SIGNS OF 25 MPH (OR LOWER) SHALL BE POSTED FOR ALL CONSTRUCTION TRAFFIC TO MINIMIZE THE PROBABILITY OF ROAD MORTALITY OF THE SAN JOAQUIN KIT FOX". SPEED LIMIT SIGNS SHALL BE INSTALLED ON THE PROJECT SITE WITHIN 30 DAYS PRIOR TO INITIATION OF SITE DISTURBANCE AND/OR CONSTRUCTION.
b. DURING THE SITE DISTURBANCE AND/OR CONSTRUCTION PHASE, GRADING AND CONSTRUCTION ACTIVITIES AFTER DUSK SHALL BE PROHIBITED UNLESS COORDINATED THROUGH THE COUNTY, DURING WHICH ADDITIONAL KIT FOX MITIGATION MEASURES MAY BE REQUIRED.
c. PRIOR TO ISSUANCE OF GRADING AND/OR CONSTRUCTION PERMIT AND WITHIN 30 DAYS PRIOR TO INITIATION OF SITE DISTURBANCE AND/OR CONSTRUCTION, ALL PERSONNEL ASSOCIATED WITH THE PROJECT SHALL ATTEND A WORKER EDUCATION TRAINING PROGRAM, CONDUCTED BY A QUALIFIED BIOLOGIST, TO AVOID OR REDUCE IMPACTS ON SENSITIVE BIOLOGICAL RESOURCES (I.E. SAN JOAQUIN KIT FOX). AT A MINIMUM, AS THE PROGRAM RELATES TO THE KIT FOX, THE TRAINING SHALL INCLUDE THE KIT FOX'S LIFE HISTORY, ALL MITIGATION MEASURES SPECIFIED BY THE COUNTY, AS WELL AS ANY RELATED BIOLOGICAL REPORT(S) PREPARED FOR THE PROJECT. THE APPLICANT SHALL NOTIFY THE COUNTY SHORTLY PRIOR TO THIS MEETING. A KIT FOX FACT SHEET SHALL ALSO BE DEVELOPED PRIOR TO THE TRAINING PROGRAM, AND DISTRIBUTED AT THE TRAINING PROGRAM TO ALL CONTRACTORS, EMPLOYERS AND OTHER PERSONNEL INVOLVED WITH THE CONSTRUCTION OF THE PROJECT.
d. DURING THE SITE-DISTURBANCE AND/OR CONSTRUCTION PHASE, TO PREVENT ENTRAPMENT OF THE SAN JOAQUIN KIT FOX, ALL EXCAVATION, STEEP-WALLED HOLES OR TRENCHES IN EXCESS OF TWO FEET IN DEPTH SHALL BE COVERED AT THE CLOSE OF EACH WORKING DAY BY PLYWOOD OR SIMILAR MATERIALS, OR PROVIDED WITH ONE OR MORE ESCAPE RAMPS CONSTRUCTED OF EARTH FILL OR WOODEN PLANKS. TRENCHES SHALL ALSO BE INSPECTED FOR ENTRAPPED KIT FOX EACH MORNING PRIOR TO ONSET OF FIELD ACTIVITIES AND IMMEDIATELY PRIOR TO COVERING WITH PLYWOOD AT THE END OF EACH WORKING DAY. BEFORE SUCH HOLES OR TRENCHES ARE FILLED, THEY SHALL BE THOROUGHLY INSPECTED FOR ENTRAPPED KIT FOX. ANY KIT FOX SO DISCOVERED SHALL BE ALLOWED TO ESCAPE BEFORE FIELD ACTIVITIES RESUME, OR REMOVED FROM THE TRENCH OR HOLE BY A QUALIFIED BIOLOGIST AND ALLOWED TO ESCAPE UNIMPEDED.
e. DURING THE SITE-DISTURBANCE AND/OR CONSTRUCTION PHASE, ANY PIPES, CULVERTS, OR SIMILAR STRUCTURES WITH A DIAMETER OF FOUR INCHES OR GREATER, STORED OVERNIGHT AT THE PROJECT SITE SHALL BE THOROUGHLY INSPECTED FOR TRAPPED SAN JOAQUIN KIT FOXES BEFORE THE SUBJECT PIPE IS SUBSEQUENTLY BURIED, CAPPED, OR OTHERWISE USED OR MOVED IN ANY WAY. IF DURING THE CONSTRUCTION PHASE A KIT FOX IS DISCOVERED INSIDE A PIPE, THAT SECTION OF PIPE WILL NOT BE MOVED, OR IF NECESSARY, BE MOVED ONLY ONCE TO REMOVE IT FROM THE PATH OF ACTIVITY, UNTIL THE KIT FOX HAS ESCAPED.
f. DURING THE SITE-DISTURBANCE AND/OR CONSTRUCTION PHASE, ALL FOOD-RELATED TRASH ITEMS SUCH AS WRAPPERS, CANS, BOTTLES, AND FOOD SCRAPS GENERATED SHALL BE DISPOSED OF IN CLOSED CONTAINERS ONLY AND REGULARLY REMOVED FROM THE SITE. FOOD ITEMS MAY ATTRACT SAN JOAQUIN KIT FOXES ONTO THE PROJECT SITE, CONSEQUENTLY EXPOSING SUCH ANIMALS TO INCREASED RISK OF INJURY OR MORTALITY. NO DELIBERATE FEEDING OF WILDLIFE SHALL BE ALLOWED.
g. PRIOR TO, DURING AND AFTER THE SITE-DISTURBANCE AND/OR CONSTRUCTION PHASE, USE OF PESTICIDES OR HERBICIDES SHALL BE IN COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS. THIS IS NECESSARY TO MINIMIZE THE PROBABILITY OF PRIMARY OR SECONDARY POISONING OF ENDANGERED SPECIES UTILIZING ADJACENT HABITATS, AND THE DEPLETION OF PREY UPON WHICH SAN JOAQUIN KIT FOXES DEPEND.
h. DURING THE SITE-DISTURBANCE AND/OR CONSTRUCTION PHASE, ANY CONTRACTOR OR EMPLOYEE THAT INADVERTENTLY KILLS OR INJURES A SAN JOAQUIN KIT FOX OR WHO FINDS ANY SUCH ANIMAL EITHER DEAD, INJURED, OR ENTRAPPED SHALL BE REQUIRED TO REPORT THE INCIDENT IMMEDIATELY TO THE APPLICANT AND COUNTY. IN THE EVENT THAT ANY OBSERVATIONS ARE MADE OF INJURED OR DEAD KIT FOX, THE APPLICANT SHALL IMMEDIATELY NOTIFY THE U.S. FISH AND WILDLIFE SERVICE AND THE DEPARTMENT BY TELEPHONE (SEE CONTACT INFORMATION BELOW). IN ADDITION, FORMAL NOTIFICATION SHALL BE PROVIDED IN WRITING WITHIN THREE WORKING DAYS OF THE FINDING OF ANY SUCH ANIMAL(S). NOTIFICATION SHALL INCLUDE THE DATE, TIME, LOCATION AND CIRCUMSTANCES OF THE INCIDENT. ANY THREATENED OR ENDANGERED SPECIES FOUND DEAD OR INJURED SHALL BE TURNED OVER IMMEDIATELY TO THE DEPARTMENT FOR CARE, ANALYSIS, OR DISPOSITION.
i. PRIOR TO FINAL INSPECTION, OR OCCUPANCY, WHICHEVER COMES FIRST, SHOULD ANY LONG INTERNAL OR PERIMETER FENCING BE PROPOSED OR INSTALLED, THE APPLICANT SHALL DO THE FOLLOWING TO PROVIDE FOR KIT FOX PASSAGE:
1. IF A WIRE STRAND/POLE DESIGN IS USED, THE LOWEST STRAND SHALL BE NO CLOSER TO THE GROUND THAN 12".
2. IF A MORE SOLID WIRE MESH FENCE IS USED, 8" X 12" OPENINGS NEAR THE GROUND SHALL BE PROVIDED EVERY 100 YARDS.
UPON FENCE INSTALLATION, THE APPLICANT SHALL NOTIFY THE COUNTY TO VERIFY PROPER INSTALLATION. ANY FENCING CONSTRUCTED AFTER ISSUANCE OF A FINAL PERMIT SHALL FOLLOW THE ABOVE GUIDELINES.

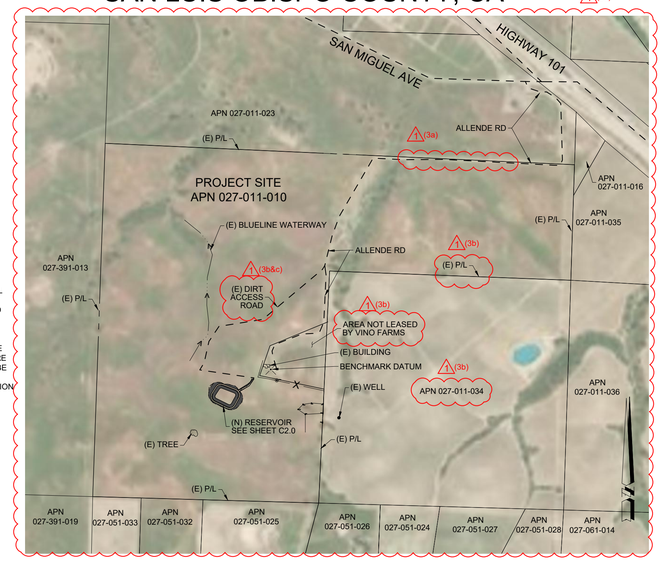
CONTACT INFORMATION
FOR QUESTIONS ABOUT THE COUNTY PERMITTING PROCESS, IN-LIEU FEE PROCESS, OR PURCHASE OF CONSERVATION BANK CREDITS, PLEASE CONTACT ROB FITZROY AT (805) 781-5179 OR HOLLY PHIPPS (805) 781-1162 IN THE COUNTY DEPARTMENT OF PLANNING AND BUILDING.
FOR QUESTIONS CONCERNING STATE REQUIREMENTS, CONTACT CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (BRANDON ANDERSON) AT (805) 594-6141.
FOR QUESTIONS CONCERNING FEDERAL REQUIREMENTS, CONTACT THE UNITED STATES FISH AND WILDLIFE SERVICE AT (805) 644-1766.

SITE ARCHAEOLOGICAL DISCOVERIES

IN THE EVENT THAT ARCHAEOLOGICAL RESOURCES ARE UNEARTHED OR DISCOVERED DURING ANY CONSTRUCTION ACTIVITIES, THE FOLLOWING STANDARDS APPLY:

1. CONSTRUCTION ACTIVITIES SHALL CEASE, AND THE ENVIRONMENTAL COORDINATOR AND THE PLANNING AND BUILDING DEPARTMENT SHALL BE NOTIFIED SO THAT THE EXTENT AND LOCATION OF DISCOVERED MATERIALS MAY BE RECORDED BY A QUALIFIED ARCHAEOLOGIST, AND DISPOSITION OF ARTIFACTS MAY BE ACCOMPLISHED IN ACCORDANCE WITH STATE AND FEDERAL LAW.
2. IN THE EVENT ARCHAEOLOGICAL RESOURCES ARE FOUND TO INCLUDE HUMAN REMAINS, OR IN ANY OTHER CASE WHERE HUMAN REMAINS ARE DISCOVERED DURING CONSTRUCTION, THE COUNTY CORONER IS TO BE NOTIFIED IN ADDITION TO THE PLANNING AND BUILDING DEPARTMENT AND THE ENVIRONMENTAL COORDINATOR SO THAT PROPER DISPOSITION MAY BE ACCOMPLISHED.

(3a)



OVERALL SITE PLAN
1" = 800'

AG RESERVOIR SAFETY NOTES

1. THE PROPERTY OWNER OR PROJECT MANAGER SHALL INSTALL A SAFETY ROPE SYSTEM VISIBLY MARKED WITH SIGNAGE AT STRATEGIC LOCATIONS AROUND THE AG RESERVOIR TO ENSURE THAT PEOPLE CAN EXIT THE POND SAFELY IN THE EVENT OF AN ACCIDENTAL FALL IN.
2. ALL PERSONNEL THAT WORK AROUND THE AG RESERVOIR SHOULD BE INFORMED AND PROPERLY TRAINED IN SAFETY PRACTICES AND PROCEDURES OF THE SAFETY ROPE SYSTEM.

THIS AG RESERVOIR IS "NON-JURISDICTIONAL" WITH THE CALIFORNIA DIVISION OF SAFETY OF DAMS, SINCE THE CAPACITY IS LESS THAN 50 AC-FT (9.57 AC-FT ACTUAL) AND THE DAM HEIGHT DOES NOT EXCEED 25 FT (18.3' ACTUAL).

N.R.C.S. PRACTICES CONSIDERED

#378 - POND
#342A&B - CRITICAL AREA PLANTING
#402 - DAM
#436 - IRRIGATION RESERVOIR
#521A - POND SEALING OR LINING
#570 - STORM WATER RUNOFF CONTROL
#578 - CULVERT CROSSING
#903 - EARTH FILL
#907 - ROCK RIP-RAP
TR-60 - TECHNICAL RELEASE 60 (EARTH DAMS AND RESERVOIRS)

NOTE: THIS PROJECT HAS BEEN DESIGNED CONSIDERING THE ABOVE N.R.C.S. PRACTICES AS WELL AS SLO COUNTY ORDINANCES AND STANDARD ENGINEERING PRACTICES, AND RECOMMENDATIONS FROM THE GEOTECHNICAL ENGINEER.

ABBREVIATIONS USED

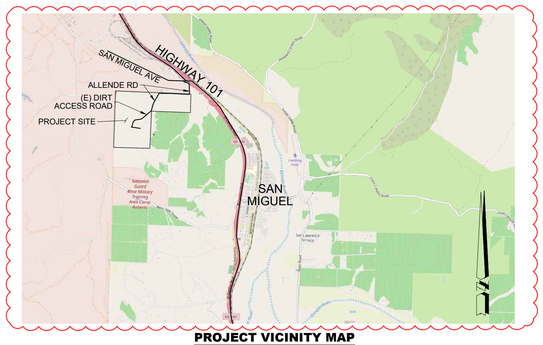
(P) = PROPOSED
(E) = EXISTING
(TYP) = TYPICAL
MG = MILLION GALLONS
AC-FT = ACRE-FEET
SF = SQUARE FEET
MIN = MINIMUM
P/L = PROPERTY LINE
EG = EXISTING GRADE
FG = FINISHED GRADE
FL = FLOW LINE
LID = LOW IMPACT DEVELOPMENT
NRCS = USDA NATURAL RESOURCES CONSERVATION SERVICE

REQUIRED VERIFICATION AND INSPECTION OF SOILS (10a)

TABLE 1705.6 (2019 CALIFORNIA BUILDING CODE)
REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.		X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.		X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.		X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.		X

(3a)



PROJECT VICINITY MAP
NTS

SCOPE OF WORK

THIS PLAN SUPPORTS ONLY THE GRADING, DRAINAGE, AND EROSION CONTROL PORTION OF THE PROPOSED AG RESERVOIR PROJECT; THE IRRIGATION AND LINEAR SYSTEMS ARE THE RESPONSIBILITY OF OTHERS.

1. CONSTRUCTION SHALL CONFORM TO THESE PLANS, RECOMMENDATIONS FROM THE GEOTECHNICAL ENGINEERS REPORT, COUNTY GRADING REQUIREMENTS AND ALL APPLICABLE CALIFORNIA BUILDING CODES AND COUNTY CODES, ORDINANCES AND PRACTICES.
2. INSTALL A 3.1 MG, 9.57 AC-FT AG RESERVOIR, 14 FEET DEEP (2 FT OF FREEBOARD) DAM HEIGHT 18.3' MAX.

DESCRIPTION OF AGRICULTURAL USE

THIS RESERVOIR SHALL BE USED SPECIFICALLY FOR IRRIGATION AND FROST CONTROL PURPOSES FOR XX ACRES OF WINE GRAPES.

PRE-CONSTRUCTION MEETING (12b)

A PRE-CONSTRUCTION MEETING IS REQUIRED WITH THE COUNTY INSPECTOR TO GO OVER SPECIAL INSPECTION REPORTING REQUIREMENTS, STRUCTURAL OBSERVATION (LINER), EROSION & SEDIMENTATION CONTROL, AND REPORTS REQUIRED.
CALL MICHELLE FREEMAN 781-5707

REPORTS REQUIRED

UPON COMPLETION OF CONSTRUCTION THE ENGINEER OF RECORD SHALL PREPARE AND SUBMIT TO THE COUNTY OF SLO A FINAL REPORT STATING THAT THE WORK IS IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED PLANS. PROGRESS REPORTS ARE REQUIRED BY THE ENGINEER OF RECORD TO THE GRADING AND INSPECTION AS DETERMINED DURING THE PRE-CONSTRUCTION MEETING.

SEPARATE PERMITS REQUIRED (5)

SEPARATE PERMITS ARE REQUIRED FOR THE FOLLOWING:
ELECTRICAL

SPECIAL INSPECTIONS (10b & 11)

1. GEOTECHNICAL ENGINEER SHALL PERFORM THE REQUIRED SPECIAL INSPECTIONS FOR THIS PROJECT.
2. GEOTECHNICAL ENGINEER SHALL INSPECT ALL EARTHWORK AND ROADWAY CONCRETE AND SUBGRADE PLACEMENT.
3. THE ENGINEER OF RECORD SHALL INSPECT THE INSTALLATION OF THE POND LINER. CONTACT BLAINE REELY AT 805-280-1051

PROJECT INFORMATION

OWNER: VINO FARMS, LLC

CONTACT: TAVO ACOSTA
1377 E. LODI AVE.
LODI, CA 95240
(805) 878-1049

ENGINEER: MONSOON CONSULTANTS

CONTACT: BLAINE REELY
P.O. BOX 151
SAN LUIS OBISPO, CA 93406
(805) 280-1051

(6a)

GEOTECHNICAL ENGINEER: GEOSOLUTIONS, INC

CONTACT: KRAIG CROZIER, PE
220 HIGH STREET
SAN LUIS OBISPO, CA 93401
(805) 543-8539

POND REPORT
TOP OF DAM ELEVATION: 745.5
WATER SURFACE ELEVATION: 743.5
BOTTOM OF POND ELEVATION: 731.5
LOWEST GRADE OUTSIDE OF DAM: 727.2
DAM HEIGHT: 18.3'
TOP OF DAM WIDTH: 14.0'
CUT SLOPE: 2.5:1
FILL SLOPE: 2.5:1
INTERIOR SLOPE: 2.5:1

(19)

EARTHWORK ESTIMATES

CUT	10,275 CUBIC YARDS
FILL	10,169 CUBIC YARDS (WITH 25% SHRINKAGE)
EXPORT	106 CUBIC YARDS

(P) RESERVOIR VOLUME: 9.57 ACRE-FEET
AREA OF DISTURBANCE: 1.75 ACRES

SINCE THIS IS AGRICULTURAL GRADING, THE REGIONAL WATER QUALITY CONTROL BOARD HAS DETERMINED THAT ENROLLMENT IN THE STATE CONSTRUCTION GENERAL PERMIT IS NOT REQUIRED.

ENGINEER'S CERTIFICATE

I, BLAINE T. REELY, RCE 46806, ENGINEER OF RECORD, HEREBY CERTIFY THAT THESE PLANS ARE IN ACCORDANCE WITH THE FOLLOWING CODES:

DATE:_____

(4)

2019 CALIFORNIA ENERGY CODES
2019 CALIFORNIA BUILDING CODE, VOLS 1 & 2
2019 CALIFORNIA ELECTRICAL CODE
2019 CALIFORNIA ENERGY CODE
2019 CALIFORNIA FIRE CODE
2019 CALIFORNIA GREEN BUILDING CODE
2019 CALIFORNIA MECHANICAL CODE
2019 CALIFORNIA PLUMBING CODE
2019 REFERENCE STANDARDS CODE
2019 CALIFORNIA CODE OF REGULATIONS - TITLE 24
COUNTY BUILDING AND CONSTRUCTION ORDINANCE - TITLE 19
COUNTY FIRE CODE ORDINANCE - TITLE 16
COUNTY LAND USE ORDINANCE - TITLE 22
COUNTY COASTAL ZONE LAND USE ORDINANCE - TITLE 23

GEOTECHNICAL ENGINEER'S CERTIFICATE (7)

I HAVE REVIEWED THE PLANS AND SPECIFICATIONS AND HAVE FOUND THEM TO BE IN SUBSTANTIAL CONFORMANCE WITH THE RECOMMENDATIONS AS FOUND IN MY SOIL INVESTIGATION.

_____DATE:_____

BENCHMARK DATUM

LOCAL AREA BENCHMARK
N 247,134.164, E 575,811.723, ELEV. 744.17
APPROX. 430 FT NE FROM RESERVOIR ACCESS POINT (SEE GRADING PLAN)
(21)
TOPOGRAPHIC SURVEY PERFOMED BY:
DH SURVEY
(805) 400-5940
SURVEY DATE: 6/27/19

SHEET INDEX

C1.0 TITLE SHEET
C1.1 NOTES SHEET
C2.0 GRADING PLAN
C2.1 GRADING DETAILS
C2.2 GRADING DETAILS
C3.0 EROSION CONTROL PLAN
C3.1 EROSION DETAILS

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED EITHER FROM RECORD DOCUMENTS OR FIELD LOCATIONS BY THE OPERATOR. THE ENGINEER AND SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. AND FURTHER DO NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY DO CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES.

MONSOON
P.O. BOX 151 SAN LUIS OBISPO, CA 93406
805-476-6168 PH. breely@monsoonconsultants.com

REVISIONS

Number	Date	Description
1	10/09/2020	Plan Check 01 Comments

Project Number: 2018.07.001
Project Location: APN 027-011-010 SLO COUNTY, CA
Sheet Title: TITLE SHEET
Owner / Applicant: VINO FARMS, LLC 1377 E. LODI AVE. LODI, CA 95240

REGISTERED PROFESSIONAL ENGINEER BLAINE T. REELY Lic. No. 46806 Expires 6/30/21 CIVIL STATE OF CALIFORNIA
10-09-2020

Date:	10-09-2020
Scale:	PER PLAN
Drawn by:	ARR
Checked by:	BTR
Sheet:	C1.0

GENERAL NOTES

CONFORMANCE AND LIABILITY

1. PROJECT PARTICIPANTS SHALL BE REFERRED TO ACCORDING TO THE FOLLOWING:
   a. OWNER: VINO FARMS, LLC
   b. ENGINEER: BLAINE REELY, MONSOON CONSULTANTS
   c. GEOTECHNICAL ENGINEER: GEOSOLUTIONS, INC.
   d. ARCHITECT: N/A
   e. AGENCY: COUNTY OF SAN LUIS OBISPO
   f. UTILITIES:

ELECTRICAL	PG&E
CABLE	CHARTER COMMUNICATIONS
WATER	N/A
SEWER	N/A
TELECOM	AT&T
GAS	THE GAS COMPANY

2. PROJECT RELATED DOCUMENTS NAMED HEREON SHALL BE CONSIDERED A PART OF THESE PLANS AND SHALL BE REFERENCED ACCORDING TO THE FOLLOWING:

   CBC: CURRENT ADOPTED VERSION OF THE CALIFORNIA BUILDING CODE (2019).

   AGENCY STANDARD: CURRENT STANDARDS AND SPECIFICATIONS ADOPTED BY THE AGENCY LISTED IN ITEM 1 ABOVE.

   GEOTECHNICAL REPORT:

PREPARED BY:	GEOSOLUTIONS, INC. (6a&c)
REPORT NAME:	SOILS ENGINEERING REPORT VINO FARMS IRRIGATION STORAGE
PROJECT NO.	SL08159-6
DATE:	OCTOBER 18, 2019

   OTHER STANDARDS: CURRENT STANDARDS ADOPTED BY THE NAMED ENTITY. FOR EXAMPLE, "CALTRANS STANDARD" REFERS TO THE CURRENT STANDARD PLANS AND SPECIFICATIONS ADOPTED BY CALTRANS.

3. THESE PLANS MAY REFERENCE OTHER DOCUMENTS THAT ARE INTENDED TO BE A PART OF THIS PLAN. A REQUIREMENT OCCURRING IN ONE IS AS BINDING AS THOUGH OCCURRING IN ALL. THE DOCUMENTS ARE INTENDED TO BE COMPLEMENTARY, AND TO DESCRIBE AND PROVIDE FOR A COMPLETE WORK. OTHER DOCUMENTS NOTED MAY INCLUDE BUT ARE NOT LIMITED TO PROJECT SPECIFICATIONS, AGENCY STANDARD DETAILS AND SPECIFICATIONS, THE STATE STANDARD SPECIFICATIONS, THE STATE STANDARD PLANS, THE GREEN BOOK, PROJECT PLANS, AND SPECIAL PROVISIONS.

4. WHERE MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION ARE MORE STRINGENT THAN THOSE PRESCRIBED IN THESE PLANS, IN AGENCY STANDARDS & SPECIFICATIONS OR SPECIAL PROVISIONS, THE MANUFACTURER'S RECOMMENDATIONS SHALL TAKE PRECEDENCE. THIS CONDITION MAY BE WAIVED AT THE WRITTEN DIRECTION OF THE ENGINEER.

5. CONSTRUCTION ACTIVITIES SHALL NOT BEGIN UNTIL PLANS ARE APPROVED BY THE AGENCY AND ALL REQUIRED PERMITS HAVE BEEN ISSUED. IT IS THE RESPONSIBILITY OF CONTRACTOR TO VERIFY THAT ALL PERMITS NECESSARY TO PERFORM THE IMPROVEMENTS IN THESE PLANS HAVE BEEN ISSUED BY THE APPROPRIATE AGENCIES AND TO COMPLY WITH THE AGENCY'S REQUIREMENTS. ANY CONSTRUCTION ACTIVITIES PERFORMED WITHOUT APPROVED PLANS AND/OR REQUIRED PERMITS IS AT CONTRACTOR'S SOLE RISK AND EXPENSE, AND MAY BE REJECTED AND SUBJECT TO FINES OR PENALTIES AS REQUIRED BY THE AGENCY.

6. AN ENCROACHMENT PERMIT IS REQUIRED FOR ALL WORK WITHIN ANY PUBLIC RIGHT-OF-WAY, EASEMENT, ALLEY, PARK OR OTHER PUBLICLY OWNED OR MAINTAINED PROPERTY. IT IS CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE PROPER PERMITS FROM ALL RELEVANT AGENCIES UNLESS OTHERWISE STATED ON THE PERMIT OR OTHER SEPARATE WRITTEN AGREEMENT, ALL COSTS INCURRED FOR WORK WITHIN THE PUBLIC RIGHT-OF-WAY PURSUANT TO AN ENCROACHMENT PERMIT SHALL BE BORNE BY CONTRACTOR, AND CONTRACTOR HEREBY WAIVES ALL CLAIMS FOR INDEMNIFICATION OR CONTRIBUTION FROM THE OWNER, ENGINEER OR THE AGENCY.

7. CONTRACTOR SHALL SCHEDULE AND ATTEND A PRE-CONSTRUCTION MEETING PRIOR TO COMMENCEMENT OF WORK. THE MEETING WILL INCLUDE (AT A MINIMUM) THE OWNER/REPRESENTATIVE, CONTRACTORS, THE ENGINEER, THE GEOTECHNICAL ENGINEER, PERTINENT UTILITY COMPANY REPRESENTATIVES, THE SURVEYOR, AND AGENCY STAFF.

8. AN INSPECTION AGREEMENT MAY BE REQUIRED BY THE AGENCY PRIOR TO THE START OF CONSTRUCTION. IT IS THE OWNER'S RESPONSIBILITY TO OBTAIN THIS AGREEMENT. IT IS CONTRACTOR'S RESPONSIBILITY TO VERIFY THAT THIS AGREEMENT HAS BEEN EXECUTED PRIOR TO COMMENCEMENT OF CONSTRUCTION.

9. CONTRACTOR SHALL EXAMINE THE PROJECT SITE, THE APPROVED PLANS AND SPECIFICATIONS, AGENCY REQUIREMENTS, PERMIT REQUIREMENTS AND PROJECT CONDITIONS. THE SUBMITTAL OF BID OR THE START OF WORK BY CONTRACTOR SHALL BE CONCLUSIVE EVIDENCE THAT CONTRACTOR HAS PERFORMED DUE DILIGENCE AND IS SATISFIED AS TO THE GENERAL, LOCAL AND SPECIFIC CONDITIONS TO BE ENCOUNTERED; THE CHARACTER, QUALITY AND SCOPE OF WORK TO BE PERFORMED; AND THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS.

10. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THE PRE-CONSTRUCTION GROUND ELEVATIONS AND THE GENERAL, OVERALL TOPOGRAPHY OF THE SITE PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, AND IN WRITING, OF ANY TOPOGRAPHIC DIFFERENCES THAT CONTRACTOR DETERMINES COULD AFFECT THE DESIGN AND/OR EARTHWORK QUANTITIES AND PROVIDE EVIDENCE OF SAME TO THE ENGINEER.

11. CONTRACTOR SHALL NOTIFY THE AGENCY AND THE ENGINEER TWO (2) WORKING DAYS PRIOR TO THE START OF WORK. IF WORK IS STOPPED FOR LONGER THAN FIVE (5) CONSECUTIVE WORKING DAYS, CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE AGENCY IMMEDIATELY UPON RESUMING WORK.

12. CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER AND THE OWNER BY TELEPHONE AND IN WRITING UPON DISCOVERY OF, AND BEFORE DISTURBING, ANY PHYSICAL CONDITIONS DIFFERING FROM THOSE REPRESENTED BY APPROVED PLANS AND SPECIFICATIONS. IF CONTRACTOR PROCEEDS PRIOR TO NOTIFICATION AND APPROVAL OF THE OWNER AND ENGINEER, CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY AND ALL EXPENSE FOR REPAIR OR RECONSTRUCTION TO CORRECT.

13. CONTRACTOR'S MEANS AND METHODS ARE AT THE SOLE DISCRETION OF CONTRACTOR. MEANS AND METHODS EMPLOYED BY CONTRACTOR SHALL PRODUCE THE ENTIRE WORKS DESCRIBED IN THESE PLANS. ANY DEVIATION FROM THESE PLANS, SPECIFICATIONS AND AGENCY STANDARDS WITHOUT PRIOR APPROVAL FROM THE ENGINEER SHALL BE DONE AT CONTRACTOR'S SOLE RISK AND EXPENSE.

14. CONSTRUCTION OPERATIONS, SERVICES. WORKMANSHIP AND INSTALLATIONS, MATERIALS, AND MANUFACTURED PRODUCTS SHALL CONFORM TO THESE PLANS, PROJECT SPECIFICATIONS, THE GEOTECHNICAL REPORT, AGENCY STANDARDS AND SPECIFICATIONS, AND THE CBC. THE WORK SHALL BE SUBJECT TO OBSERVATION AND TESTING, AND THE APPROVAL OF THE AGENCY.

15. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR PROTECTION OF PUBLIC AND PRIVATE PROPERTY WITHIN AND ADJACENT TO THE SITE. CONTRACTOR SHALL, AT HIS OWN EXPENSE, REPAIR OR REPLACE TO PRE-CONSTRUCTION CONDITION, ALL EXISTING IMPROVEMENTS WITHIN OR ADJACENT TO THE JOBSITE, WHICH ARE NOT DESIGNATED FOR REMOVAL AND ARE DAMAGED OR REMOVED AS A RESULT OF CONTRACTOR'S OPERATIONS.

16. CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE INDUSTRIAL SAFETY REGULATIONS. NEITHER THE AGENCY, ITS OFFICIALS, THE ENGINEER, NOR THE OWNER SHALL BE RESPONSIBLE FOR ENFORCING SAFETY REGULATIONS.

17. CONTRACTOR ACCEPTS SOLE AND COMPLETE RESPONSIBILITY FOR THE CONDITION OF THE JOB SITE DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY. CONTRACTOR FURTHER ACCEPTS THAT THIS REQUIREMENT APPLIES AT ALL TIMES. CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD HARMLESS THE AGENCY, THE OWNER AND THE ENGINEER FROM ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT, EXCEPTING LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE ENGINEER.

18. CONTRACTOR SHALL CONTINUOUSLY MONITOR ALL ASPECTS OF CONSTRUCTION AND CONSTRUCTION STAKING TO IDENTIFY POTENTIAL CONFLICTS OR ERRORS IN DESIGN OR STAKING. DISPARITIES BETWEEN THE EXISTING SITE CONDITIONS AND THESE PLANS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER IN WRITING.

19. IF THE WORK TO BE DONE OR ANY OF THE MATTERS RELATIVE THERETO ARE NOT SUFFICIENTLY DETAILED OR EXPLAINED IN THESE PLANS AND/OR SPECIFICATIONS, CONTRACTOR (BEFORE PROCEEDING) SHALL CONTACT THE ENGINEER FOR CLARIFICATION AND SHALL CONFORM AS PART OF THE CONTRACT.

20. IN THE EVENT THAT THESE PLANS LACK SUFFICIENT HORIZONTAL OR VERTICAL CONTROL, CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING. IF CONTRACTOR FAILS TO DO SO, CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ERROR IN CONSTRUCTION AND RECONSTRUCTION TO CORRECT SUCH ERROR.

21. PRIOR TO THE PLACEMENT OF FINISHED PAVEMENT, WALLS, CURBS, SWALES OR PIPES, CONTRACTOR SHALL VERIFY THAT THE GRADED PLANE AND FORMS OR FALSE-WORK ESTABLISH THE LINES AND GRADES SHOWN ON THIS PLAN.

22. CONFLICTS WITHIN THESE PLANS, AND/OR IRREGULARITIES IN THE HORIZONTAL LINE OR VERTICAL GRADE OF IMPROVEMENTS SHOWN ON THESE PLANS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER IN WRITTEN FORM. IF CONTRACTOR FAILS TO DO SO, CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ERROR IN THE GRADE AND NECESSARY RECONSTRUCTION TO CORRECT SUCH ERROR.

23. CONTRACTOR SHALL OBTAIN A COPY OF THE PLANS AND CURRENT APPLICABLE STANDARDS AND SPECIFICATIONS AND KEEP THEM AT THE JOB SITE FOR REFERENCE AT ALL TIMES.

24. CONTRACTOR SHALL MAINTAIN A COMPLETE AND ACCURATE RECORD OF ALL CONSTRUCTED CHANGES THAT DEVIATE FROM THESE PLANS AND SPECIFICATIONS. THIS RECORD, AT A MINIMUM, SHALL INCLUDE PLAN MARKUPS, WRITTEN DESCRIPTIONS, AND A COMPREHENSIVE PHOTOGRAPHIC RECORD. THIS RECORD WILL BE THE BASIS FOR PREPARATION OF RECORD DRAWINGS BY THE ENGINEER. UPON COMPLETION OF THE PROJECT, CONTRACTOR SHALL DELIVER THIS RECORD TO THE ENGINEER ALONG WITH A LETTER WHICH STATES THAT, OTHER THAN THESE NOTED CHANGES, "THE PROJECT WAS CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS."

OBSERVATION AND TESTING

(9)

25. DURING THE COURSE OF WORK, CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR OBSERVATION AND TESTING AS REQUIRED BY THE AGENCY. WORK NOT OBSERVED OR TESTED IS SUBJECT TO REJECTION. THE ENGINEER OF RECORD SHALL INSPECT THE INSTALLATION OF THE POND LINER. CONTACT BLAINE REELY AT 805-280-1051

26. CONTRACTOR SHALL PROVIDE THE GEOTECHNICAL ENGINEER THE NECESSARY NOTICE AND TIME TO MAKE OBSERVATIONS AND TESTS AS DEEMED NECESSARY BY THE GEOTECHNICAL ENGINEER AND/OR AGENCY. CONTRACTOR SHALL OBTAIN A CERTIFICATION FROM THE GEOTECHNICAL ENGINEER STATING THE EARTHWORK AND ANY OTHER WORK UNDER THE PURVIEW OF THE GEOTECHNICAL ENGINEER WAS COMPLETED IN CONFORMANCE WITH THE PLANS AND GEOTECHNICAL REPORT AND SHALL DELIVER A COPY OF SAID CERTIFICATION TO THE ENGINEER.

27. THE ENGINEER MAY INSPECT THE WORK SHOWN ON THESE PLANS AT HIS DISCRETION. CONTRACTOR SHALL MAKE THE SITE AVAILABLE FOR INSPECTION AT THE REQUEST OF THE ENGINEER.

28. THE AGENCY'S INSPECTOR, ACTING ON BEHALF OF THE AGENCY, MAY REQUEST REVISIONS TO THE PLANS TO SOLVE UNFORESEEN ISSUES OR CONDITIONS THAT MAY ARISE IN THE FIELD. ALL REVISIONS SHALL BE SUBJECT TO THE REVIEW AND APPROVAL OF THE ENGINEER.

29. CONTRACTOR MAY REQUEST THAT HIGH-DENSITY POLYETHYLENE (HDPE) STORM DRAIN PIPE BE USED IN PLACE OF OTHER STORM DRAIN PIPE MATERIAL SPECIFIED ON THIS PLAN. THIS SUBSTITUTION IS NOT ABSOLUTE AND WILL REQUIRE THE WRITTEN APPROVAL OF THE AGENCY AND THE ENGINEER. HDPE PIPES SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS. ENGINEER OF WORK SHALL BE RETAINED TO OBSERVE AND INSPECT THE INSTALLATION. FINAL INSPECTION SHALL INCLUDE A MANDREL TEST. REMEDIAL WORK REQUIRED TO PASS ALL INSPECTIONS SHALL BE AT THE SOLE EXPENSE OF CONTRACTOR.

CONSTRUCTION

30. ALL WORK PERFORMED WITHIN PUBLIC RIGHTS-OF-WAY, PUBLIC PROPERTY, AND/OR PUBLIC EASEMENTS SHALL CONFORM TO THE AGENCY'S STANDARDS AND SPECIFICATIONS.

31. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH APPLICABLE HEALTH AND SAFETY LAWS, ORDINANCES, REGULATIONS, RULES, AND STANDARDS INCLUDING ALL REQUIREMENTS OF THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY AND OF CAL-OSHA.

32. CONSTRUCTION HOURS OF OPERATION ARE ESTABLISHED BY THE AGENCY. CONTRACTOR IS RESPONSIBLE FOR FOLLOWING ALL APPLICABLE LAWS, PERMIT CONDITIONS AND AGENCY POLICIES.

33. WHEN SPECIAL WORK HOURS ARE ISSUED BY THE AGENCY, CONTRACTOR SHALL NOTIFY THE ENGINEER AND MAKE ARRANGEMENTS FOR OBSERVATION AND TESTING DURING THESE HOURS AS NECESSARY.

34. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE NECESSARY GRADE CONTROL AND TO HAVE SUCH STAKES OR MARKS REQUIRED FOR HORIZONTAL AND VERTICAL CONTROL FOR THE EXECUTION AND COMPLETION OF THE WORK.

35. CONTRACTOR SHALL PRESERVE ALL EXISTING SURVEY MONUMENTS, INCLUDING SURVEY CONTROL, PROPERTY CORNERS AND BENCHMARKS AND SHALL BEAR ALL EXPENSE ASSOCIATED WITH SAID PRESERVATION, OR REPLACEMENT AND/OR RELOCATION OF SAID MONUMENTS AND BENCHMARKS.

36. MONUMENTS AND BENCH MARKS SHALL BE SET BY A LICENSED LAND SURVEYOR OR A REGISTERED CIVIL ENGINEER LICENSED TO SURVEY AT THE SOLE EXPENSE OF CONTRACTOR.

37. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR VEHICULAR AND PEDESTRIAN TRAFFIC CONTROLS AND SAFETY. CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN SUCH FENCING, SIGNS, LIGHTS, TRENCH PLATES, BARRICADES, AND/OR OTHER PROTECTION AS IS NECESSARY FOR SAID CONTROL AND SAFETY.

38. CONTRACTOR SHALL MAKE PROVISIONS AND/OR ARRANGEMENTS TO ACCOMMODATE PEDESTRIAN ACCESS THROUGH OR AROUND THE WORK AREA OR SHALL, WITH AGENCY APPROVAL, PROVIDE APPROPRIATE ADVANCED WARNING TO PEDESTRIANS TO UTILIZE ALTERNATE ROUTES.

39. ANY NECESSARY CONSTRUCTION SIGNS AND TRAFFIC CONTROL DEVICES SHALL BE PLACED PER THE APPROVED TRAFFIC CONTROL PLAN AND/OR TO THE SATISFACTION OF THE AGENCY PRIOR TO COMMENCING ANY CONSTRUCTION OR DEMOLITION ACTIVITIES. IT IS CONTRACTOR'S RESPONSIBILITY TO REVISE AND/OR RELOCATE SIGNS AND ANY OTHER NECESSARY TRAFFIC CONTROL DEVICES AS NECESSARY TO MAINTAIN SAFE CONDITIONS ON AND OFF THE SITE.

40. ALL PAVED TRAVELED-WAY SURFACES SHALL BE RESTORED TO AN ALL-WEATHER, TRAVERSABLE CONDITION AT THE END OF EACH WORK DAY, UNLESS OTHERWISE AUTHORIZED BY THE AGENCY TO REMAIN CLOSED.

41. STREET PAVEMENT TO BE REMOVED/REPLACED SHALL BE SAW CUT IN ACCORDANCE WITH THE AGENCY STANDARDS AND SPECIFICATIONS. THE PAVEMENT SHALL BE REMOVED TO REVEAL A COMPETENT STRUCTURAL SECTION AND NEW PAVIEMENT SHALL BE JOINED AT THIS POINT. EXISTING PAVEMENT SHALL BE CUT ALONG A NEAT VERTICAL LINE PARALLEL TO CENTERLINE WHERE POSSIBLE, AS DIRECTED BY THE ENGINEER OR THE AGENCY. MINIMUM PAVEMENT WIDTH APPLIED TO PATCHES, EDGING, OR LONGITUDINAL PAVEOUTS SHALL BE OF SUFFICIENT DIMENSION TO BE PROPERLY COMPACTED IN ACCORDANCE WITH THE AGENCY STANDARDS AND SPECIFICATIONS. A PAINT BINDER OF ASPHALTIC EMULSION SHALL BE APPLIED TO ALL VERTICAL SURFACES OF THE REMAINING PAVEMENT AGAINST WHICH NEW MATERIAL IS TO BE PLACED. THE STRUCTURAL SECTION SHALL BE INSPECTED BY THE AGENCY PRIOR TO THE CONSTRUCTION OF THE NEW SECTION.

42. THE STRUCTURAL PAVEMENT SECTIONS SHOWN ON THESE PLANS ARE TENTATIVE PENDING CONFORMATION OF THE R-VALUES BY THE GEOTECHNICAL ENGINEER AFTER ROUGH GRADE IS ACHIEVED. AT SUCH TIME, THE GEOTECHNICAL ENGINEER SHALL RECOMMEND THE STRUCTURAL PAVEMENT SECTION TO THE ENGINEER AND THE AGENCY FOR APPROVAL.

43. IT IS CONTRACTOR'S RESPONSIBILITY TO FURNISH OR OTHERWISE PROVIDE ALL MATERIALS REQUIRED TO COMPLETE THE WORK SHOWN ON THESE PLANS AS PART OF THE CONTRACT UNLESS OTHERWISE STATED. ENGINEER OF WORK, THE AGENCY, OR THE OWNER ARE NOT RESPONSIBLE FOR FURNISHING OR PROVIDING ANY MATERIAL OR SERVICE FOR CONSTRUCTION OR INSTALLATION UNLESS EXPLICITLY STATED ON THESE PLANS.

44. CONTRACTOR SHALL RAISE OR LOWER THE SURFACE FEATURES OF ALL EXISTING UNDERGROUND FACILITIES THAT REMAIN TO MATCH THE ADJACENT FINISHED GRADE REGARDLESS OF WHETHER EVERY INSTANCE OF SUCH WORK IS EXPLICITLY IDENTIFIED ON THE PLANS. CONTRACTOR SHALL IDENTIFY ALL LOCATIONS WHERE EXISTING FEATURES MAY NEED TO BE ADJUSTED TO GRADE PRIOR TO THE START OF CONSTRUCTION.

45. CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN SUCH SHEETING, SHORING, BRACING, AND/OR OTHER PROTECTION AS IS NECESSARY TO PREVENT FAILURE OF TEMPORARY EXCAVATIONS AND EMBANKMENTS AND TO PREVENT DAMAGE TO EXISTING IMPROVEMENTS, AND PARTIALLY COMPLETED PORTIONS OF THE WORK. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE SUFFICIENCY OF SUCH SUPPORTS AND/OR OTHER PROTECTION.

46. PRIOR TO ORDERING MATERIALS, CONTRACTOR SHALL POTHOLE TO VERIFY THE LOCATION, ELEVATION, SIZE, CONDITION AND MATERIAL OF ALL EXISTING UTILITY POINTS OF CONNECTION AND CROSSINGS. CONTRACTOR SHALL CONFIRM THAT THE MATERIALS TO BE ORDERED ARE ADEQUATE TO PERFORM THE REQUIRED WORK BASED ON THE PHYSICAL INSPECTION OF THE EXISTING CONDITIONS IN THE FIELD. CONTRACTOR SHALL NOTIFY THE ENGINEER OF DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS PRIOR TO CONTINUING WORK.

47. CONTRACTOR SHALL MAINTAIN THE SITE TO CONTROL AND PRECLUDE EROSION AND SEDIMENTATION IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

48. CONTRACTOR SHALL PLACE EROSION CONTROL DEVICES AS SPECIFIED BY THE ENGINEER OR THE AGENCY AND MAINTAIN THEM UNTIL SUCH TIME AS THE PROJECT IS ACCEPTED AS COMPLETE BY THE AGENCY. THESE DEVICES SHALL BE IN PLACE OR READY TO BE PLACED DURING THE RAINY SEASON AS DEFINED BY THE AGENCY. IN THE EVENT THAT THE DEVICES ARE NOT PERMANENTLY IN PLACE, CONTRACTOR SHALL PLACE OR OTHERWISE INSTALL THE DEVICES WHEN THE FORECAST FOR RAIN EXCEEDS THIRTY PERCENT (30%).

49. AN EMERGENCY CREW SHALL BE AVAILABLE 24 HOURS PER DAY TO PLACE AND MAINTAIN THE EROSION CONTROL DEVICES AND ENSURE THEIR PROPER FUNCTION. THE PERSON RESPONSIBLE FOR MAINTAINING EROSION CONTROL PROTECTION IS NAMED BELOW:

   NAME: _____
   PHONE: _____

50. ALL PROJECTS INVOLVING SITE DISTURBANCE OF ONE ACRE OR GREATER SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPEDS). THE OWNER SHALL SUBMIT A NOTICE OF INTENT (NOI) TO COMPLY WITH THE GENERAL PERMIT FOR CONSTRUCTION ACTIVITY WITH THE REGIONAL WATER QUALITY CONTROL BOARD (RWQCB). THE OWNER SHALL PROVIDE THE AGENCY WITH THE WASTE DISCHARGE IDENTIFICATION NUMBER (WDID #) OR WITH VERIFICATION THAT AN EXEMPTION HAS BEEN GRANTED BY THE RWQCB.

   WDID # N/A

51. CONTRACTOR SHALL EMPLOY EROSION AND SEDIMENTATION CONTROL BEST MANAGEMENT PRACTICES (BMP) AS IDENTIFIED BY NPEDS, THE RWQCB, AND THE AGENCY.

52. CONTRACTOR SHALL ROUTINELY MONITOR THE PUBLIC ROADWAY ADJACENT TO THE SITE. MUD, SILT, SAND, GRAVEL OR ANY KIND OF DIRT DEPOSITED ON THE STREET SHALL BE REMOVED BY CONTRACTOR.

53. CONTRACTOR SHALL COORDINATE WITH THE PROJECT ARBORIST TO ENSURE COMPLIANCE WITH AGENCY REQUIREMENTS FOR TREE REMOVAL AND PROTECTION.

54. ALL TREES ON THIS SHOWN ON THIS PLAN SHALL BE PROTECTED TO THE SATISFACTION OF THE AGENCY UNLESS SPECIFICALLY DESIGNATED FOR REMOVAL ON THIS PLAN OR BY SEPARATE PERMIT.

55. STATED DIMENSIONS TAKE PRECEDENCE OVER DIMENSIONS SCALED FROM THIS PLAN. ALL DISTANCES SHOWN HEREON ARE MEASURED IN THE HORIZONTAL PLANE UNLESS OTHERWISE STATED.

GRADING

63. GRADING OPERATIONS SHALL BE CONDUCTED IN CONFORMANCE WITH THE GEOTECHNICAL REPORT AND FIELD DIRECTION FROM THE GEOTECHNICAL ENGINEER AS WELL AS ALL PERTINENT GOVERNMENT REGULATIONS INCLUDING BUT NOT LIMITED TO: THE AGENCY'S MUNICIPAL CODE, THIS PLAN, AND THE CBC.

64. EARTHWORK QUANTITIES AS SHOWN HEREON HAVE BEEN ESTIMATED FOR PERMIT AND/OR BONDING PURPOSES ONLY.

    CUT = 10,275 CUBIC YARDS
    FILL = 10,169 CUBIC YARDS
    NET 106 CUBIC YARDS EXPORT

    (19)

65. CONTRACTOR SHALL CALCULATE THE EARTHWORK QUANTITIES TO THEIR SATISFACTION PRIOR TO THE START OF CONSTRUCTION, INCLUDING, BUT NOT LIMITED TO, ALLOWANCE FOR SHRINKAGE, TRENCH SPOILS, STRIPPING, PRE-COMPACTION AND CONSOLIDATION. NO ADDITIONAL COMPENSATION WILL BE MADE FOR EXPORT OR IMPORT REQUIRED THAT HAS NOT BEEN IDENTIFIED IN CONTRACTOR'S BID/CONTRACT DOCUMENTS.

66. THESE PLANS DO NOT AUTHORIZE SITE DISTURBANCE BEYOND THE LIMITS OF GRADING OR IMPROVEMENTS SHOWN HEREON. CONTRACTOR SHALL OBTAIN PERMISSION TO ENTER UPON ADJOINING PROPERTY TO CONSTRUCT IMPROVEMENTS OR TO GRADE ELSEWHERE PRIOR TO COMMENCING WORK. THESE PLANS, THE AGENCY AND THE ENGINEER DO NOT AUTHORIZE ENTRY TO ANY PROPERTY NOT UNDER THE CONTROL/OWNERSHIP OF THE OWNER.

67. NO GRADING SHALL OCCUR WITHIN TWO (2) FEET OF THE PROPERTY LINES UNLESS NOTED OTHERWISE ON THESE PLANS. CONTRACTOR'S MEANS AND METHODS SHALL ACCOMMODATE THIS REQUIREMENT.

68. ALL CUT AND FILL SLOPES SHALL CONFORM TO THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEERING REPORT, BUILDING CODE, AND AGENCY REQUIREMENTS.

69. DESIGN GRADES DO NOT AUTHORIZE GRADING TO EXCEED THE MAXIMUM SLOPES SHOWN ON THIS PLAN, OR RECOMMENDED BY THE GEOTECHNICAL ENGINEERING REPORT, BUILDING CODE, OR AGENCY REQUIREMENTS. IN THE EVENT THAT SPOT ELEVATIONS SHOWN ON THIS PLAN RESULT IN SLOPES GREATER THAN ALLOWED IN THE ABOVE REFERENCED DOCUMENTS, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING BEFORE PROCEEDING.

70. GRADE STAKES (PLACED BY THE SURVEYOR) DO NOT AUTHORIZE GRADING TO EXCEED THE MAXIMUM SLOPES RECOMMENDED BY THE GEOTECHNICAL ENGINEERING REPORT, BUILDING CODE, OR AGENCY REQUIREMENTS. IN THE EVENT THAT GRADE STAKES (PLACED BY THE SURVEYOR) PROVIDED FOR CONSTRUCTION REPRESENT SLOPES GREATER THAN ALLOWED IN THE ABOVE REFERENCED "PROJECT RELATED DOCUMENTS", OR SHOWN ON THIS PLAN, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING BEFORE PROCEEDING.

71. SOILS TESTS AND COMPACTION TESTS SHALL BE DONE IN ACCORDANCE WITH THE AGENCY STANDARDS AND SPECIFICATIONS AND AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER OR AS INDICATED ON THIS PLAN.

72. PLACEMENT OF MATERIAL TO BE USED AS BACKFILL OR EMBANKMENT SHALL BE FREE OF OBJECTIONABLE MATERIAL SUCH AS TREES, STUMPS, ROOTS, LOGS OR OTHERWISE DELETERIOUS MATERIAL. THE ENGINEER OR THE GEOTECHNICAL ENGINEER MAY BE REQUIRED TO CERTIFY THE MATERIAL WHICH CONTRACTOR INTENDS TO USE.

73. AREAS TO RECEIVE FILL SHALL BE CLEARED OF ALL BRUSH AND OTHER OBJECTIONABLE DEBRIS, INCLUDING EXISTING ASPHALT PAVEMENT, AND PREPARED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER PRIOR TO PLACING OF FILL MATERIAL. IN THE EVENT THAT THE GEOTECHNICAL ENGINEERING REPORT LACKS SUFFICIENT INFORMATION, THE CONTACTOR SHALL APPLY TO THE GEOTECHNICAL ENGINEER FOR CLARIFICATION IN WRITING. CONTRACTOR SHALL NOT PROCEED UNTIL PROPER SPECIFICATIONS HAVE BEEN PROVIDED BY THE GEOTECHNICAL ENGINEER.

74. ALL UNSUITABLE SOIL, MATERIAL, ASPHALT, CONCRETE, RUBBISH AND DEBRIS RESULTING FROM GRADING OPERATIONS SHALL BE REMOVED FROM THE JOB SITE, TRANSPORTED TO A SUITABLE LOCATION AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE REGULATIONS.

UTILITY

75. ALL UTILITY COMPANIES MUST BE NOTIFIED PRIOR TO THE START OF CONSTRUCTION. IT IS CONTRACTOR'S RESPONSIBILITY TO MAKE THE PROPER NOTIFICATIONS.

76. UTILITIES AND IMPROVEMENTS THAT BECOME DAMAGED DURING THE COURSE OF CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE AGENCY AND/OR UTILITY COMPANY AT THE SOLE EXPENSE OF CONTRACTOR.

77. AN EFFORT HAS BEEN MADE TO DEFINE THE LOCATION OF UNDERGROUND FACILITIES BASED ON AVAILABLE RECORDS, HOWEVER THE LOCATION WHERE SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES AND OTHER UNDERGROUND STRUCTURES MAY NOT BE SHOWN ON THIS PLAN. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR LOCATING OR HAVING LOCATED ALL UNDERGROUND UTILITIES AND RELATED FACILITIES PRIOR TO COMMENCING CONSTRUCTION AND FOR PROTECTING SAME DURING THE COURSE OF CONSTRUCTION.

78. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, CONTRACTOR SHALL POTHOLE TO CONFIRM THE LOCATION, ELEVATION, SIZE, CONDITION AND MATERIAL OF ALL EXISTING UTILITY POINTS OF CONNECTION AND CROSSINGS. CONTRACTOR SHALL NOTIFY THE ENGINEER OF DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS PERTAINING TO MATERIALS, ELEVATIONS, LOCATIONS, AND ETC. PRIOR TO CONTINUING WORK.

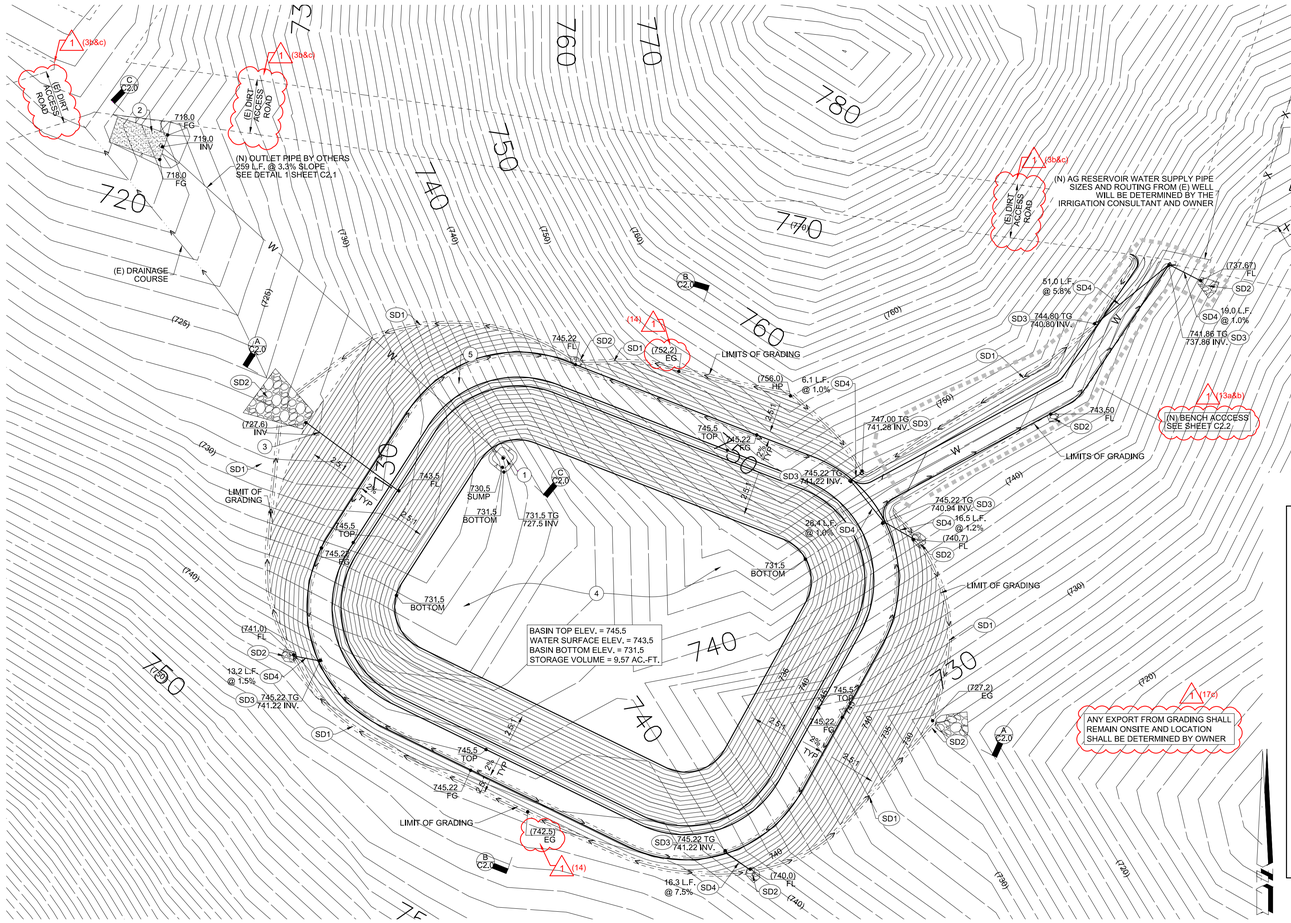
79. IT SHALL BE THE RESPONSIBILITY OF CONTRACTOR TO CONTACT "DIG ALERT" FOR LOCATION OF UNDERGROUND FACILITIES. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR CONTACTING THE RESPECTIVE UTILITY PROVIDERS FOR THE LOCATION OF ALL UNDERGROUND FACILITIES.

80. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WIRE AND GAS UTILITY TRENCHING AND CONDUIT PLACEMENT IN ACCORDANCE WITH HANDOUT PACKAGES PROVIDED BY THE RESPECTIVE UTILITY PROVIDERS. LOCATION OF WIRE AND GAS UTILITIES SHOWN ON THESE PLANS ARE SHOWN FOR REFERENCE ONLY AND SHALL NOT BE USED FOR CONSTRUCTION PURPOSES.

81. CONTRACTOR TO USE THE AGENCY'S CURRENT STANDARD PLANS AND SPECIFICATIONS FOR WATER, SEWER, AND STORM DRAIN FACILITIES. UNLESS OTHERWISE NOTED.

82. CONTRACTOR SHALL COORDINATE ANY WATER MAIN SHUT-DOWN WITH THE AGENCY AND/OR WATER PURVEYOR AND PROVIDE APPROPRIATE NOTIFICATION TO ALL PROPERTIES WITHIN AFFECTED AREA.

83. CONTRACTOR SHALL NOT INTERRUPT UTILITY SERVICE TO ANY OCCUPIED FACILITIES UNLESS PERMITTED UNDER THE FOLLOWING CONDITIONS AND THEN



POND REPORT

TOP OF DAM ELEVATION: 745.5
WATER SURFACE ELEVATION: 743.5
BOTTOM OF POND ELEVATION: 731.5
LOWEST GRADE OUTSIDE OF DAM: 727.2
DAM HEIGHT: 18.3'
TOP OF DAM WIDTH: 14'
CUT SLOPE: 2.5:1
FILL SLOPE: 2.5:1
INTERIOR SLOPE: 2.5:1

EARTHWORK ESTIMATES

1 (19)

CUT	10,275 CUBIC YARDS
FILL	10,169 CUBIC YARDS (WITH 25% SHRINKAGE)
EXPORT	106 CUBIC YARDS

(P) RESERVOIR VOLUME: 9.57 ACRE-FEET
AREA OF DISTURBANCE: 1.75 ACRES

NOTE: TOPOGRAPHIC INFORMATION SHOWN PROVIDED BY DH SURVEY DATED 6/27/2019

POND STORAGE VOLUMES

ELEVATION	DEPTH (FT.)	SURFACE AREA (SQ. FT)	SURFACE AREA (ACRES)	CUMULATIVE VOLUME (CU. FT.)	CUMULATIVE VOLUME (ACRE FT.)
731.5	0	26,924.48	0.61	0	0
732.50	1.00	28,525.30	0.65	27,715.01	0.63
733.50	2.00	30,165.62	0.69	29,335.58	0.67
734.50	3.00	31,845.43	0.73	57,050.59	1.30
735.50	4.00	33,564.74	0.77	89,745.81	2.06
736.50	5.00	35,323.55	0.81	124,180.09	2.85
737.50	6.00	37,121.86	0.85	160,392.93	3.68
738.50	7.00	38,959.67	0.89	198,423.83	4.55
739.50	8.00	40,836.98	0.94	238,312.29	5.47
740.50	9.00	42,753.78	0.98	280,097.80	6.43
741.50	10.00	44,710.08	1.02	323,819.89	7.43
742.50	11.00	46,705.88	1.07	369,518.00	8.48
743.50	12.00	48,672.49	1.11	417,162.97	9.57

EMERGENCY OVERFLOW

1. AS SHOWN ON THIS SHEET, AN 18" PS36 PVC PIPE WILL PROVIDE MEANS FOR EMRGENCY OVERFLOW.
2. THE ONLY WATER INFLOW SOURCES ARE DIRECT RAINFALL AND THE SUPPLY PIPELINE. ALL SURFACE RUN OFF IS DIRECTED AWAY AND AROUND THE RESERVOIR.

PIPE SIZING:

24 HR RAINFALL EVENT => 5.25 IN/HR (17 IN/YR,ANNUAL)
RESERVOIR SUPPLY => 1600 GPM (MAX) = 3.56 CFS
RESERVOIR SURFACE AREA => 129,234.37 SF
PIPE SIZE (D) => 18" PVC
PIPE SLOPE (S) => 23/88' = 0.26
FRICTION COEFFICIENT (n) => 0.012 (PVC)

MANNING EQUATION:
D = [2.159 (Q)(n) / S^0.5]^0.375 WHERE Q = DESIGN FLOW (CFS) N = 0.012; S = 0.26

Q = 100 YR RAINFALL (Q1) + MAXIMUM PUMPING RATE (Q2)
Q1 = (5.25 IN/HR)(129,234.37 SF)(1 FT/12 IN)(1 HR/3600 SEC)
Q1= 15.7 CFS
Q2 = 3.56 CFS
Q = 15.7 + 3.56 + = 19.27 CFS

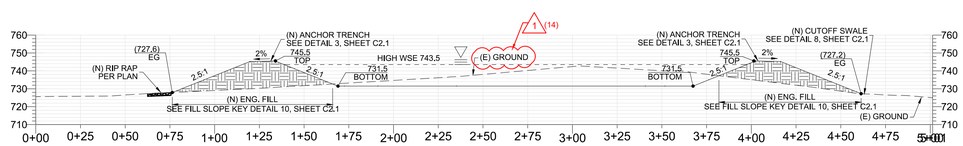
THUS, THE MINIMUM EMERGENCY PIPE DIAMETER NEEDED TO SAFELY CONVEY EMERGENCY FLOW CONDITIONS IS:

D = [2.159 (19.27) (0.012) / (0.26) * 0.5] *0.375
D = 1.44 FT = 17.28 IN (MIN)

SINCE THE 18" OVERFLOW PIPE IS GREATER THAN THE 17.28" MIN. NEEDED, THE 18" EMERGENCY OVERFLOW PIPE IS ADEQUATE.

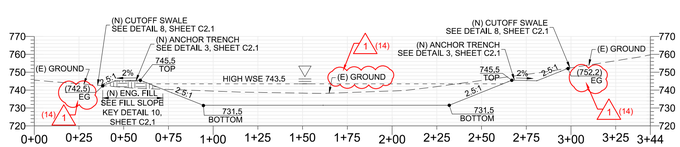
GRADING GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED VERSION AND AMENDMENTS OF THE CALIFORNIA BUILDING CODE. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE APPLICABLE CITY/COUNTY STANDARDS AND CALTRANS STANDARD SPECIFICATIONS, LATEST ADOPTED EDITION AND AMENDMENTS. IN THE EVENT THAT THERE IS A CONFLICT BETWEEN CODES, THE CONTRACTOR WILL NOTIFY THE CIVIL ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION. WORK SHALL BE DONE IN ACCORDANCE WITH THE FOLLOWING:
   1.1. CBC LATEST EDITION
   1.2. NRCS PRACTICES REFERENCE
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEARING AND DISPOSAL OF THE PROPOSED WORK AREA. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIAL LEGALLY AND IS RESPONSIBLE FOR COMPLYING WITH LOCAL RECYCLING ORDINANCES.
3. NO FILL SHALL BE PLACED ON THE EXISTING GROUND SURFACE UNTIL THE GROUND HAS BEEN CLEARED OF WEEDS, DEBRIS, TOPSOIL, DELETERIOUS MATERIAL AND SCARIFIED AND COMPACTED.
4. CUT AND FILL SLOPES SHALL BE NO STEEPER THAN 3:1 AND 2:1 (HORIZONTAL:VERTICAL) AS INDICATED ON THESE PLANS.
5. FILLS SHALL BE COMPACTED TO THE MINIMUM 95% PERCENTAGE OF MAXIMUM DRY DENSITY AS SPECIFIED.
6. ALL EXISTING FILLS SHALL BE APPROVED BEFORE ANY ADDITIONAL FILLS ARE ADDED.
7. ALL EXPOSED SLOPES SHALL BE PLANTED PER THE PROJECT EROSION SEDIMENT CONTROL PLANS AND IRRIGATED UNTIL GROUND COVER IS ESTABLISHED.
8. THE STOCKPILING OF EXCESS MATERIAL IS SUBJECT TO THE APPROVAL OF THE RCD.
9. ALL TRENCH BACKFILLS SHALL BE TESTED AND APPROVED.
10. ALL CUT SLOPES SHALL BE INVESTIGATED DURING GRADING TO DETERMINE IF ANY SLOPE STABILITY PROBLEMS EXIST. SHOULD EXCAVATION DISCLOSE ANY GEOTECHNICAL HAZARDS OR POTENTIAL GEOTECHNICAL HAZARDS A GEOTECHNICAL ENGINEER SHALL BE CONTACTED.
11. THE FINAL COMPACTION REPORT AND APPROVAL SHALL CONTAIN DETAILS REGARDING THE TYPE OF FIELD TESTING PERFORMED INCLUDING THE METHOD OF OBTAINING THE IN-PLACE DENSITY, WHETHER SAND CONE, NUCLEAR GAUGE, OR DRIVE RING SHALL BE NOTED FOR EACH TEST. SUFFICIENT MAXIMUM DENSITY DETERMINATIONS SHALL BE PERFORMED TO VERIFY THE ACCURACY OF THE MAXIMUM DENSITY CURVES USED BY THE FIELD TECHNICIAN.
12. SANITARY FACILITIES SHALL BE MAINTAINED ON SITE THROUGHOUT THE DURATION OF THE CONSTRUCTION.
13. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF AND PROTECT ALL EXISTING UTILITIES AND TO ENSURE THAT SERVICE IS NOT DISRUPTED TO EXISTING FACILITIES.
14. ALL EXISTING DRAINAGE COURSES ON THE PROJECT SITE MUST CONTINUE TO FUNCTION, ESPECIALLY DURING STORM CONDITIONS AND APPROVED PROTECTIVE MEASURE AND TEMPORARY DRAINAGE PROVISIONS MUST BE USED TO PROTECT EXISTING STRUCTURES AND ADJACENT PROPERTIES DURING THE CONSTRUCTION PROJECT. IN ALL CASES, THE CONTRACTOR AND/OR OWNER SHALL BE HELD LIABLE FOR ANY DAMAGE DUE TO OBSTRUCTING OR ALTERING EXISTING DRAINAGE PATTERNS.
15. EXPORTED MATERIAL SHALL BE TAKEN TO A LEGAL DUMP SITE OR PERMITTED RECEIVING SITE APPROVED BY THE LOCAL AGENCY HAVING JURISDICTION. 1 (17a)
16. ~~ANY DIRT, ROCK, DEBRIS OR CONSTRUCTION MATERIAL THAT IS TRACKED OR DROPPED WITHIN THE PUBLIC RIGHT OF WAY DURING THE TRANSPORTATION OF THAT MATERIAL OR EQUIPMENT ASSOCIATED WITH THE PROJECT SHALL BE CLEANED OR REMOVED DAILY.~~
17. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND OBTAINING REQUIRED PERMITS FROM THE DIVISION OF SAFETY AND HEALTH (OSHA)
18. CALIFORNIA AIR RESOURCES BOARD REGULATION RULE 403 AIR QUALITY CONTROL MUST BE IMPLEMENTED DURING CONSTRUCTION.
19. CONSTRUCTION ACTIVITIES SHALL OCCUR ONLY BETWEEN THE HOURS OF 7:00 AM AND 7:00 PM, MONDAY THROUGH FRIDAY BETWEEN THE HOURS OF 9:00 AM AND 6:00 PM SATURDAYS, UNLESS OTHERWISE AUTHORIZED BY THE OWNER AND COUNTY.
20. CONTRACTOR SHALL USE LOW EMISSIONS MOBILE CONSTRUCTION EQUIPMENT DURING ALL SITE PREPARATION, GRADING AND CONSTRUCTION ACTIVITIES.
21. CONTRACTOR SHALL MAINTAIN ALL CONSTRUCTION ENGINES TUNED CONSISTENT WITH MANUFACTURER'S SPECIFICATIONS DURING ALL SITE PREPARATION, GRADING AND CONSTRUCTION ACTIVITIES.
22. THE SPEED OF CONSTRUCTION VEHICLES ON-SITE SHALL BE LIMITED TO 15 MILE PER HOUR.
23. THE CONTRACTOR SHALL CONTROL DUST IN AREAS USED FOR OFF-PAVEMENT PARKING, MATERIAL LAY DOWN AREAS OR THOSE AWAITING FUTURE CONSTRUCTION.
24. CONTRACTOR SHALL IMPLEMENT THE FOLLOWING HIGH WIND DUST CONTROL MEASURES WHEN INSTANTANEOUS WIND SPEEDS EXCEED 25 MPH
   24.1. TERMINATION OF SCRAPES, GRADERS OR DOZERS ON UNPAVED SURFACES UNTIL WINDS SUBSIDE
   24.2. APPLICATION OF WATER AS NEEDED



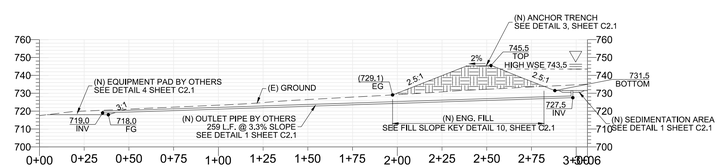
SECTION A-A

SCALE: 1" = 40'



SECTION B-B

SCALE: 1" = 40'



SECTION C-C

SCALE: 1" = 40'

CONSTRUCTION NOTES

1. CONSTRUCT 10' SEDIMENTATION AREA PER DETAIL 1, SHEET C2.1
2. CONSTRUCT 15' x 30' LEVEL PAD FOR IRRIGATION PUMP EQUIPMENT TO BE INSTALLED BY OTHERS (SEE DETAIL 4, SHEET C2.1)
3. INSTALL 65 L.F. OF 18" PS46 PVC EMERGENCY OVERFLOW PIPE WITH A MIN OF 12" COVER OVER PIPE, DAYLIGHT AT RIP-RAP FIELD AS SHOWN (SEE DETAIL 2, SHEET C2.1)
4. INSTALL 40-MIL HDPE LINER AND ANCHOR TRENCH IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS (SEE DETAIL 3, SHEET C2.1)
5. CONSTRUCT 14' WIDE BENCH PER DETAIL 3, SHEET C2.1

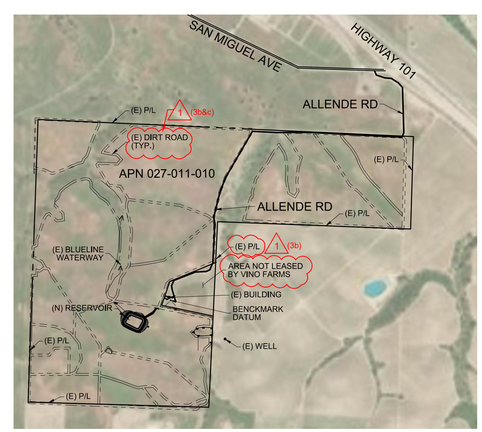
STORM DRAIN NOTES

SD1 CONSTRUCT 4' WIDE CUTOFF SWALE PER DETAIL 8, SHEET C2.1

SD2 FURNISH AND INSTALL RIP RAP FIELD 1.5' DEEP, #2 BACKING (SEE DETAIL 2, SHEET C2.1)

SD3 INSTALL 18" x 18" MID STATE CONCRETE STORM DRAIN CATCH BASIN PER DETAIL 7, SHEET C2.1

SD4 INSTALL 18" PVC STORM DRAIN PER MANUFACTURER'S RECOMMENDATIONS, LENGTH AND SLOPES PER PLAN.



OVERALL SITE PLAN

SCALE: NTS

DIGALERT
DIAL TOLL FREE
811 OR
(1-800-227-2600)
AT LEAST TWO DAYS BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF CALIFORNIA

MONSOON
P.O. BOX 151 SAN LUIS OBISPO, CA 93406
805-476-6168 PH. brieely@monsoonconsultants.com

REVISIONS		
Number	Date	Description
1	10/09/2020	Plan Check #1 Comments

Project Number: 2018.07.001

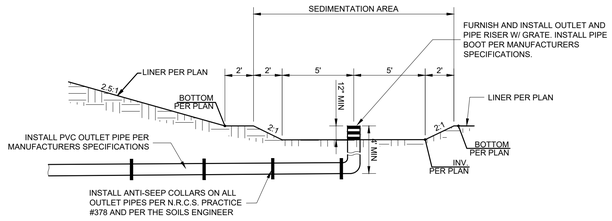
Project Location: APN 027-011-010 SLO COUNTY, CA

Sheet Title: GRADING PLAN

Owner / Applicant: VINO FARMS, LLC 1377 E. LODI AVE. LODI, CA 95240

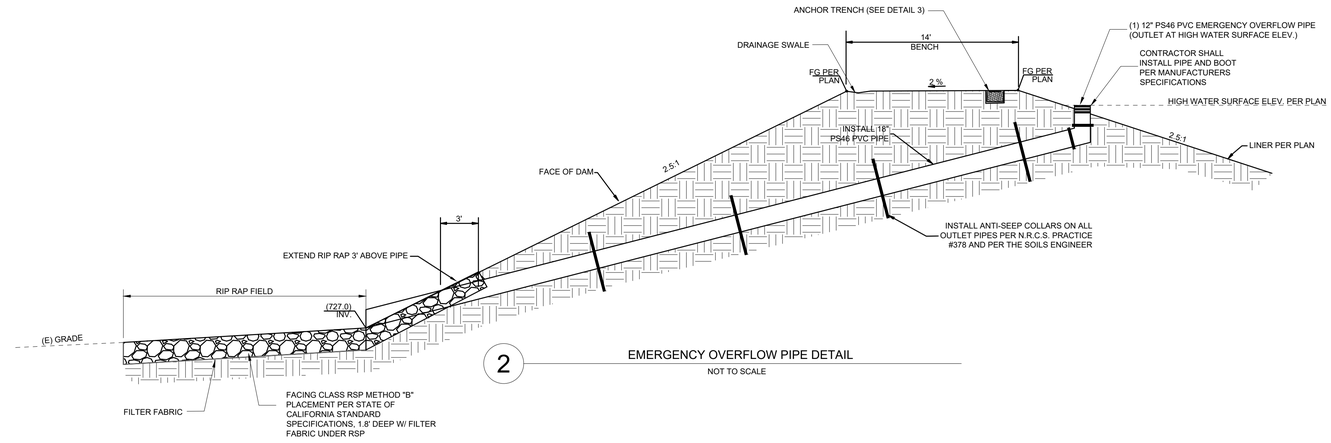
REGISTERED PROFESSIONAL ENGINEER BLAYNE T. RIEELY Lic. No. 46806 Expires 6/30/21 CIVIL STATE OF CALIFORNIA
10-09-2020

Date:	10-09-2020
Scale:	PER PLAN
Drawn by:	ARR
Checked by:	BTR
Sheet:	C2.0



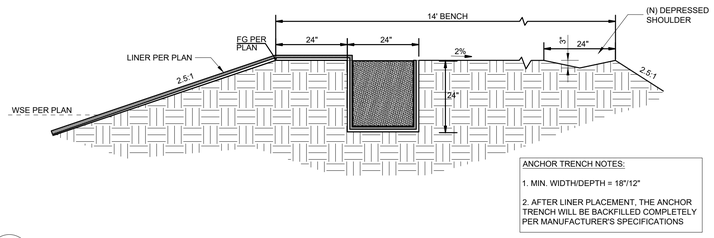
1 SEDIMENTATION AREA DETAIL

NOT TO SCALE



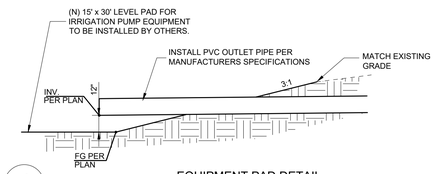
2 EMERGENCY OVERFLOW PIPE DETAIL

NOT TO SCALE



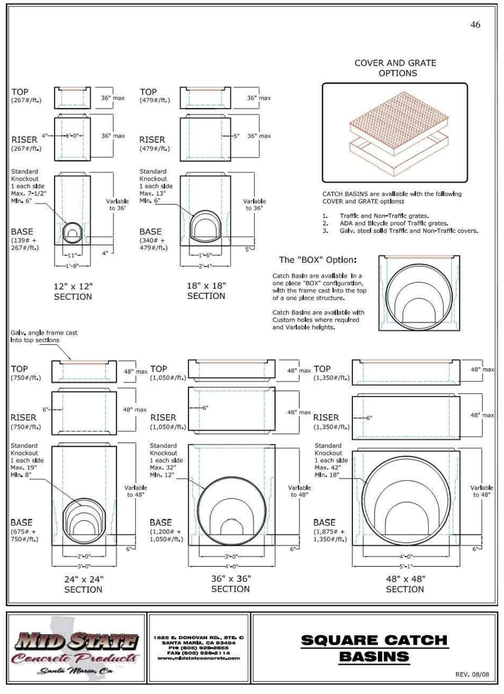
3 BENCH AND ANCHOR TRENCH DETAIL

NOT TO SCALE



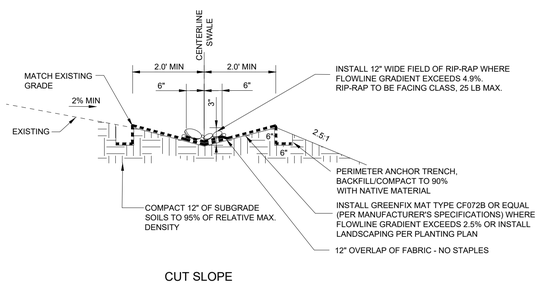
4 EQUIPMENT PAD DETAIL

1" = 10'

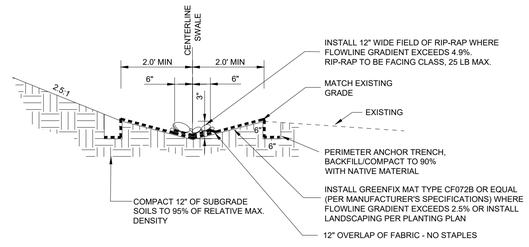


7 STORM DRAIN CATCH BASIN DETAIL

NOT TO SCALE



CUT SLOPE



FILL SLOPE

8 CUTOFF SWALE DETAIL

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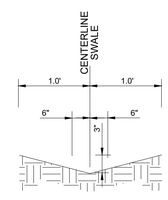
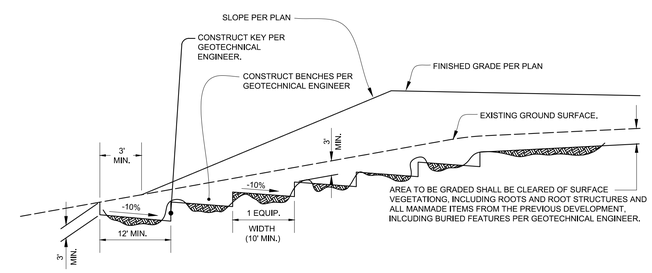


9 SWALE DETAIL

NOT TO SCALE



10 FILL SLOPE KEY DETAIL

NOT TO SCALE

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REVISIONS

Number	Date	Description
1	10/09/2020	Plan Check 01 Comments

Project Number: 2018.07.001

Project Location: APN 027-011-010 SLO COUNTY, CA

Sheet Title: DETAIL SHEET

Owner / Applicant: VINO FARMS, LLC 1377 E. LODI AVE. LODI, CA 95240

REGISTERED PROFESSIONAL ENGINEER BLAYNE T. REELY Lic. No. 46806 Expires 6/30/21 CIVIL STATE OF CALIFORNIA
10-09-2020

Date: 10-09-2020
Scale: PER PLAN
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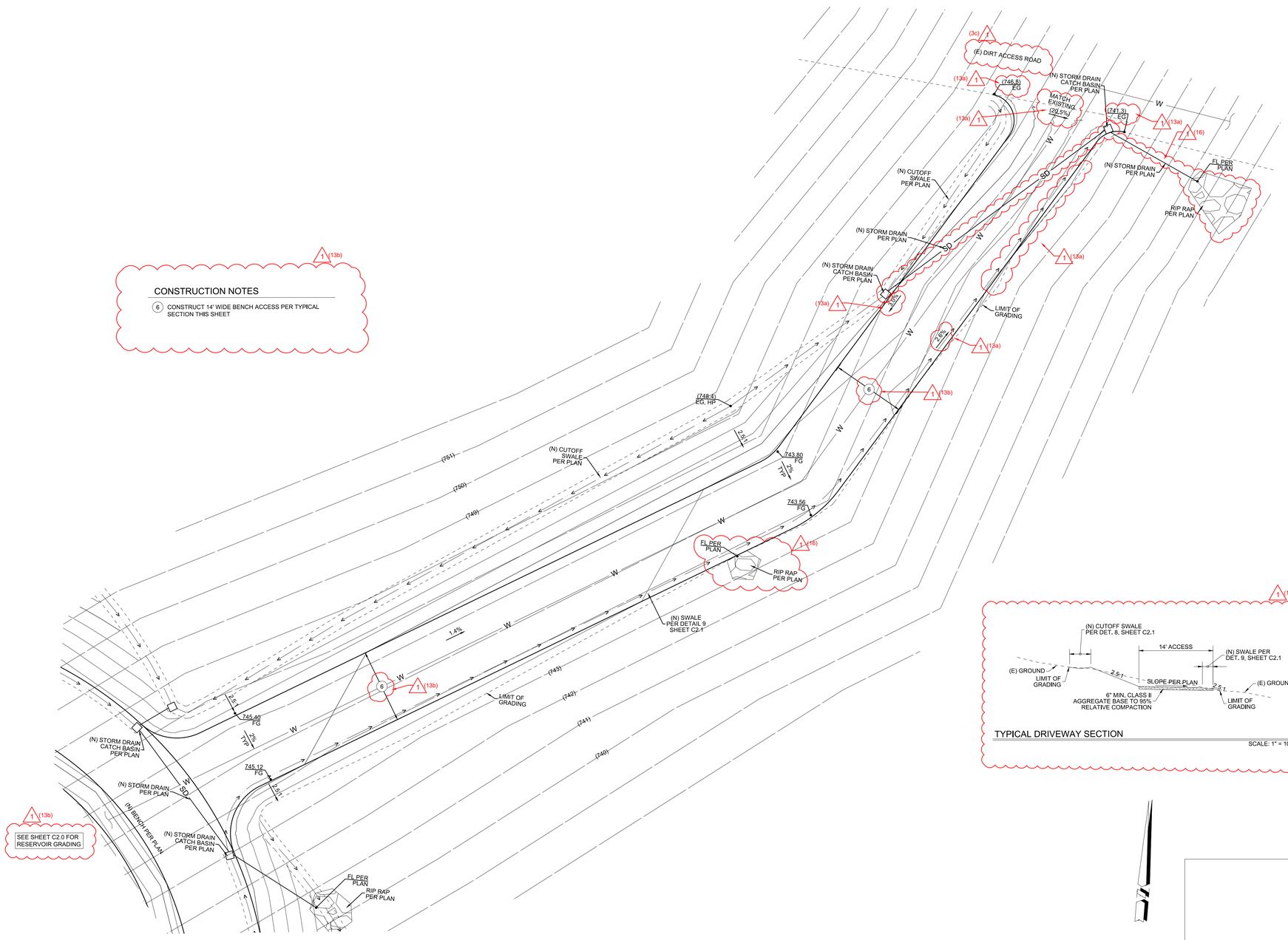
Checked by: BTR
Sheet: C2.1



BENCH ACCESS DETAIL

SCALE: 1" = 10'

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Date:	10-09-2020
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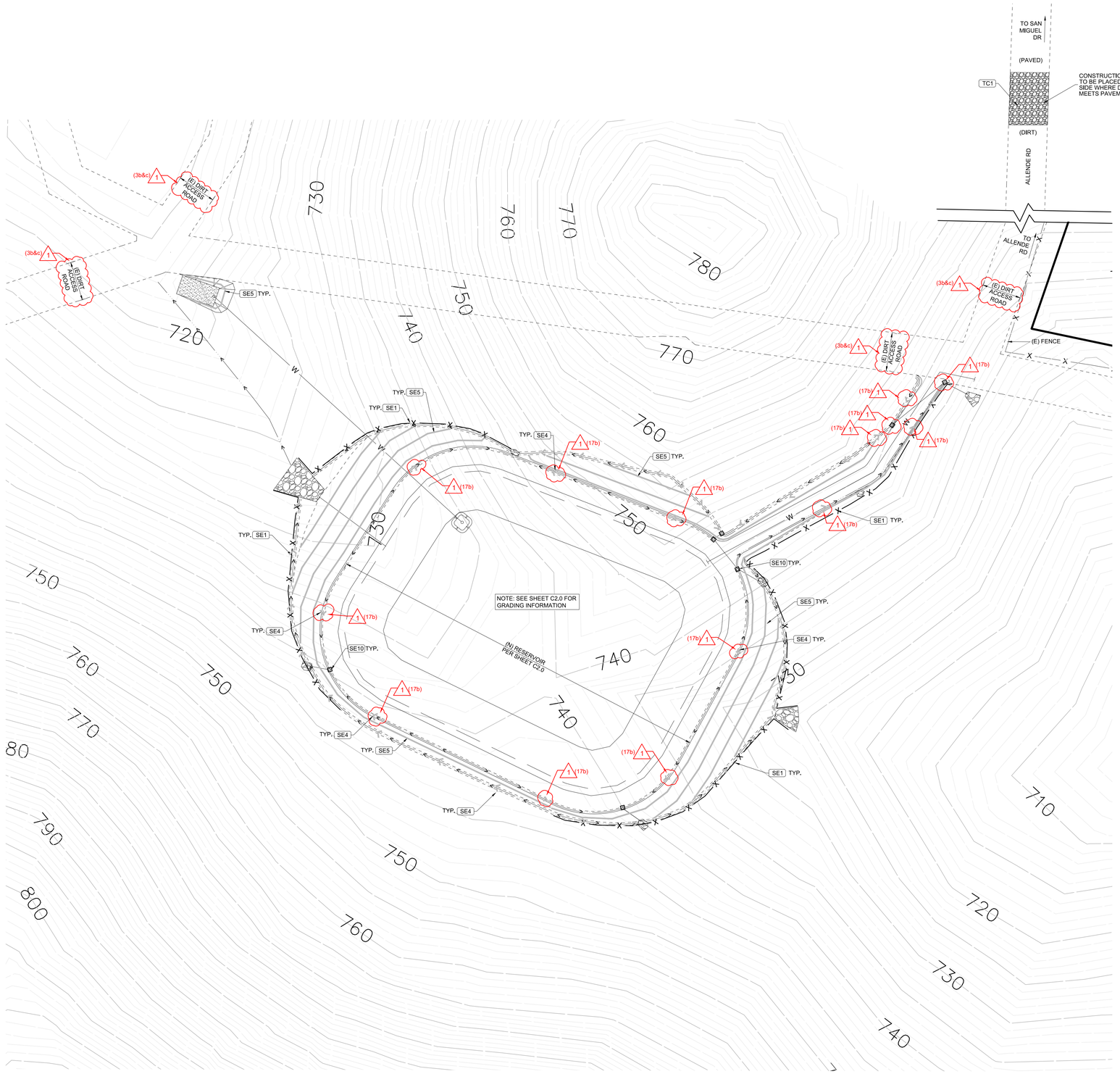
Checked by:	BTR
Sheet:	C2.2



SAN LUIS OBISPO COUNTY
EROSION CONTROL NOTES - REQUIRED

1. EROSION CONTROL MEASURES FOR WIND, WATER, MATERIAL STOCKPILES, AND TRACKING SHALL BE IMPLEMENTED ON ALL PROJECTS AT ALL TIMES AND SHALL INCLUDE SOURCE CONTROL, INCLUDING PROTECTION OF STOCKPILES, PROTECTION OF SLOPES, PROTECTION OF ALL DISTURBED AREAS, PROTECTION OF ACCESSES, AND PERIMETER CONTAINMENT MEASURES. EROSION CONTROL SHALL BE PLACED PRIOR TO THE COMMENCEMENT OF GRADING AND SITE DISTURBANCE ACTIVITIES UNLESS THE PUBLIC WORKS DEPARTMENT DETERMINES TEMPORARY MEASURES TO BE UNNECESSARY BASED UPON LOCATION, SITE CHARACTERISTICS OR TIME OF YEAR. THE INTENT OF EROSION CONTROL MEASURES SHALL BE TO KEEP ALL GENERATED SEDIMENTS FROM ENTERING A SWALE, DRAINAGE WAY, WATERCOURSE, ATMOSPHERE, OR MIGRATE ONTO ADJACENT PROPERTIES OR ONTO THE PUBLIC RIGHT-OF-WAY.

2. SITE INSPECTIONS AND APPROPRIATE MAINTENANCE OF ALL EROSION CONTROL MEASURES/DEVICES SHALL BE CONDUCTED AND DOCUMENTED AT ALL TIMES DURING CONSTRUCTION AND ESPECIALLY PRIOR TO, DURING, AND AFTER RAIN EVENTS.

3. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE PLACEMENT AND MAINTENANCE OF ALL EROSION CONTROL MEASURES/DEVICES AS SPECIFIED BY THE APPROVED PLAN UNTIL SUCH TIME THAT THE PROJECT IS ACCEPTED AS COMPLETE BY THE COUNTY OR UNTIL RELEASED FROM THE CONDITIONS OF APPROVAL OF THEIR GENERAL PERMIT. EROSION CONTROL MEASURES/DEVICES MAY BE RELOCATED, DELETED OR ADDITIONAL MEASURES/DEVICES MAY BE REQUIRED DEPENDING ON THE ACTUAL CONDITIONS ENCOUNTERED DURING CONSTRUCTION. ADDITIONAL EROSION CONTROL MEASURES/DEVICES SHALL BE PLACED AT THE DISCRETION OF THE ENGINEER OF WORK, COUNTY INSPECTOR, SWPPP MONITOR, OR RWQCB INSPECTOR. GUIDELINES FOR DETERMINING APPROPRIATE EROSION CONTROL DEVICES SHALL BE INCLUDED IN THE PLANS WITH ADDITIONAL MEASURES/DEVICES NOTED FROM THE APPENDIX OF THE PUBLIC IMPROVEMENT STANDARDS.

4. EROSION CONTROL DEVICES SHALL BE THE FIRST ORDER OF WORK AND SHALL BE IN PLACE AT ALL TIMES DURING CONSTRUCTION. ADDITIONAL MEASURES/DEVICES SHALL BE AVAILABLE DURING THE RAINY SEASON (BETWEEN OCTOBER 15 AND APRIL 15) OR ANYTIME WHEN THE RAIN PROBABILITY EXCEEDS 30%. THESE MEASURES/DEVICES SHALL BE AVAILABLE, INSTALLED, AND/OR APPLIED AFTER EACH AREA IS GRADED AND NO LATER THAN FIVE (5) WORKING DAYS AFTER COMPLETION OF EACH AREA.

5. THE CONTRACTOR, DEVELOPER, AND ENGINEER OF WORK SHALL BE RESPONSIBLE TO REVIEW THE PROJECT SITE PRIOR TO OCTOBER 15 (RAINY SEASON) AND TO COORDINATE AN IMPLEMENTATION PLAN FOR WET WEATHER EROSION CONTROL DEVICES. A LOCALLY BASED STANDBY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (OCTOBER 15 THROUGH APRIL 15). NECESSARY MATERIALS SHALL BE AVAILABLE AND STOCK PILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OR MAINTENANCE OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.

6. IN THE EVENT OF A FAILURE, THE DEVELOPER AND/OR HIS REPRESENTATIVE SHALL BE RESPONSIBLE FOR CLEANUP AND ALL ASSOCIATED COSTS OR DAMAGE. IN THE EVENT THAT DAMAGE OCCURS WITHIN THE RIGHT-OF-WAY AND THE COUNTY IS REQUIRED TO PERFORM CLEANUP, THE OWNER SHALL BE RESPONSIBLE FOR COUNTY REIMBURSEMENT OF ALL ASSOCIATED COSTS OR DAMAGE.

7. IN THE EVENT OF FAILURE AND/OR LACK OF PERFORMANCE BY THE OWNER AND/OR CONTRACTOR TO CORRECT EROSION CONTROL RELATED PROBLEMS THE PUBLIC WORKS DEPARTMENT MAY REVOKE ALL ACTIVE PERMITS AND RECOMMEND THAT COUNTY CODE ENFORCEMENT PROVIDE A WRITTEN NOTICE OR STOP WORK ORDER IN ACCORDANCE WITH SECTION 22.52.140 [23.10] OF THE LAND USE ORDINANCE.

8. PERMANENT EROSION CONTROL SHALL BE PLACED AND ESTABLISHED WITH 90% COVERAGE ON ALL DISTURBED SURFACES OTHER THAN PAVED OR GRAVEL SURFACES, PRIOR TO FINAL INSPECTION. PERMANENT EROSION CONTROL SHALL BE FULLY ESTABLISHED PRIOR TO FINAL ACCEPTANCE. TEMPORARY EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL PERMANENT MEASURES ARE ESTABLISHED.

9. THE COUNTY AIR POLLUTION CONTROL DISTRICT (APCD) MAY HAVE ADDITIONAL PROJECT SPECIFIC EROSION CONTROL REQUIREMENTS. THE CONTRACTOR, DEVELOPER, AND ENGINEER OF WORK SHALL BE RESPONSIBLE FOR MAINTAINING SELF REGULATION OF THESE REQUIREMENTS.

10. ALL PROJECTS INVOLVING SITE DISTURBANCE OF ONE ACRE OR GREATER SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES). THE DEVELOPER SHALL SUBMIT A NOTICE OF INTENT (NOI) TO COMPLY WITH THE GENERAL PERMIT FOR CONSTRUCTION ACTIVITY WITH THE REGIONAL WATER QUALITY CONTROL BOARD (RWQCB). THE DEVELOPER SHALL PROVIDE THE COUNTY WITH THE WASTE DISCHARGE IDENTIFICATION NUMBER (WDID #) OR WITH VERIFICATION THAT AN EXEMPTION HAS BEEN GRANTED BY RWQCB. 1 (18)

> NOTE:
>
> SINCE THIS IS AGRICULTURAL GRADING, THE REGIONAL WATER QUALITY CONTROL BOARD HAS DETERMINED THAT ENROLLMENT IN THE STATE CONSTRUCTION GENERAL PERMIT IS NOT REQUIRED.

PERSON TO CONTACT 24 HOURS A DAY IN THE EVENT THERE IS AN EROSION CONTROL/SEDIMENTATION PROBLEM (STORM WATER COMPLIANCE OFFICER): EXEMPT - SEE ABOVE NOTE

11. PERSON TO CONTACT 24 HOURS A DAY IN THE EVENT THERE IS AN EROSION CONTROL/SEDIMENTATION PROBLEM:

NAME: TAVO ACOSTA
PHONE NO.: (805) 280-1051

EROSION CONTROL CONSTRUCTION NOTES

- SE1 INSTALL SILT FENCE (DETAIL SE-1, SHEET C3.1)
- SE4 CONSTRUCT CHECK DAM (FIBER ROLL) (DETAIL SE-4, SHEET C3.1)
- SE5 INSTALL FIBER ROLL (DETAIL SE-5, SHEET C3.1)
- SE10 CONSTRUCT INLET PROTECTION (DETAIL SE-10, SHEET C3.1)
- TC1 CONSTRUCT CONSTRUCTION ENTRANCE (DETAIL TC-1, SHEET C3.1)

LEGEND

—— X —— SILT FENCE

FIBER ROLL

SCALE: 1" = 40'

0 40 80 120 160

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REVISIONS

Number	Date	Description
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Project Number: 2018.07.001

Project Location: APN 027-011-010 SLO COUNTY, CA

Sheet Title: EROSION CONTROL PLAN

Owner / Applicant: VINO FARMS, LLC 1377 E. LODI AVE. LODI, CA 95240

REGISTERED PROFESSIONAL ENGINEER BLAYNE T. REELY Lic. No. 46806 Expires 6/30/21 CIVIL STATE OF CALIFORNIA

10-09-2020

Date:	10-09-2020
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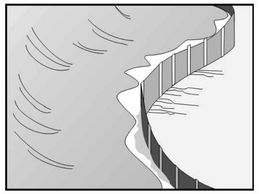
Sheet:	C3.0

Silt Fence SE-1



Description and Purpose
A silt fence is made of a woven geotextile that has been entrenched, attached to supporting poles, and sometimes backed by a plastic or wire mesh for support. The silt fence detains sediment-laden water, promoting sedimentation behind the fence.

Suitable Applications
Silt fences are suitable for perimeter control, placed below areas where sheet flows discharge from the site. They could also be used as interior controls below disturbed areas where runoff may occur in the form of sheet and rill erosion and around inlets within disturbed areas (SE-10). Silt fences are generally ineffective in locations where the flow is concentrated and are only applicable for sheet or overland flows. Silt fences are most effective when used in combination with erosion controls. Suitable applications include:

- Along the perimeter of a project.
- Below the toe or down slope of exposed and erodible slopes.
- Along streams and channels.
- Around temporary spoil areas and stockpiles.
- Around inlets.
- Below other small cleared areas.

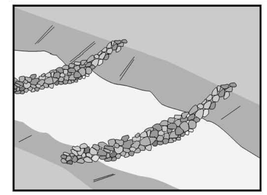
Categories
EC	Erosion Control	
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ Primary Category
☒ Secondary Category

Targeted Constituents
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives
SE-5 Fiber Rolls
SE-6 Gravel Bag Berm
SE-8 Sandbag Barrier
SE-10 Storm Drain Inlet Protection
SE-14 Biofilter Bags

Check Dams SE-4



Description and Purpose
A check dam is a small barrier constructed of rock, gravel bags, sandbags, fiber rolls, or other proprietary products, placed across a constructed swale or drainage ditch. Check dams reduce the effective slope of the channel, thereby reducing scour and channel erosion by reducing flow velocity and increasing residence time within the channel, allowing sediment to settle.

Suitable Applications
Check dams may be appropriate in the following situations:

- To promote sedimentation behind the dam.
- To prevent erosion by reducing the velocity of channel flow in small intermittent channels and temporary swales.
- In small open channels that drain 10 acres or less.
- In steep channels where stormwater runoff velocities exceed 5 ft/s.
- During the establishment of grass linings in drainage ditches or channels.
- In temporary ditches where the short length of service does not warrant establishment of erosion-resistant linings.
- To act as a grade control structure.

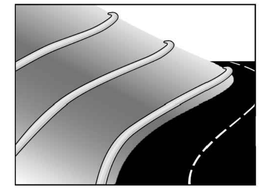
Categories
EC	Erosion Control	☒
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ Primary Category
☒ Secondary Category

Targeted Constituents
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives
SE-5 Fiber Rolls
SE-6 Gravel Bag Berm
SE-8 Sandbag Barrier
SE-14 Biofilter Bags

Fiber Rolls SE-5



Description and Purpose
A fiber roll consists of straw, coir, or other biodegradable materials bound into a tight tubular roll wrapped by netting, which can be photodegradable or natural. Additionally, gravel core fiber rolls are available, which contain an imbedded ballast material such as gravel or sand for additional weight when staking the rolls are not feasible (such as use as inlet protection). When fiber rolls are placed at the toe and on the face of slopes along the contours, they intercept runoff, reduce its flow velocity, release the runoff as sheet flow, and provide removal of sediment from the runoff (through sedimentation). By interrupting the length of a slope, fiber rolls can also reduce sheet and rill erosion until vegetation is established.

Suitable Applications
Fiber rolls may be suitable:

- Along the toe, top, face, and at grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow.
- At the end of a downward slope where it transitions to a steeper slope.
- Along the perimeter of a project.
- As check dams in unlined ditches with minimal grade.
- Down-slope of exposed soil areas.
- At operational storm drains as a form of inlet protection.

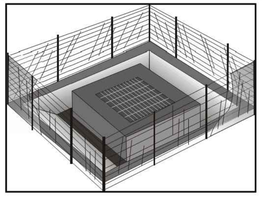
Categories
EC	Erosion Control	☒
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ Primary Category
☒ Secondary Category

Targeted Constituents
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives
SE-1 Silt Fence
SE-6 Gravel Bag Berm
SE-8 Sandbag Barrier
SE-14 Biofilter Bags

Storm Drain Inlet Protection SE-10



Description and Purpose
Storm drain inlet protection consists of a sediment filter or an impounding area in, around or upstream of a storm drain, drop inlet, or curb inlet. Storm drain inlet protection measures temporarily pond runoff before it enters the storm drain, allowing sediment to settle. Some filter configurations also remove sediment by filtering, but usually the ponding action results in the greatest sediment reduction. Temporary geotextile storm drain inserts attach underneath storm drain grates to capture and filter storm water.

Suitable Applications
Every storm drain inlet receiving runoff from unstabilized or otherwise active work areas should be protected. Inlet protection should be used in conjunction with other erosion and sediment controls to prevent sediment-laden stormwater and non-stormwater discharges from entering the storm drain system.

Limitations
- Drainage area should not exceed 1 acre.
- In general straw bales should not be used as inlet protection.
- Requires an adequate area for water to pond without encroaching into portions of the roadway subject to traffic.

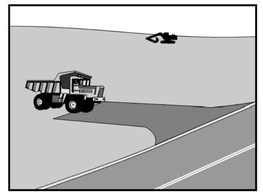
Categories
EC	Erosion Control	
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ Primary Category
☒ Secondary Category

Targeted Constituents
Sediment	☑
Nutrients	
Trash	☒
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives
SE-1 Silt Fence
SE-5 Fiber Rolls
SE-6 Gravel Bag Berm
SE-8 Sandbag Barrier
SE-14 Biofilter Bags

Stabilized Construction Entrance/Exit TC-1



Description and Purpose
A stabilized construction access is defined by a point of entrance/exit to a construction site that is stabilized to reduce the tracking of mud and dirt onto public roads by construction vehicles.

Suitable Applications
Use at construction sites:

- Where dirt or mud can be tracked onto public roads.
- Adjacent to water bodies.
- Where poor soils are encountered.
- Where dust is a problem during dry weather conditions.

Limitations
- Entrances and exits require periodic top dressing with additional stones.
- This BMP should be used in conjunction with street sweeping on adjacent public right of way.
- Entrances and exits should be constructed on level ground only.
- Stabilized construction entrances are rather expensive to construct and when a wash rack is included, a sediment trap of some kind must also be provided to collect wash water

Categories
EC	Erosion Control	☒
SE	Sediment Control	☒
TC	Tracking Control	☑
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ Primary Objective
☒ Secondary Objective

Targeted Constituents
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives
None

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REVISIONS

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Project Number: 2018.07.001

Project Location: APN 027-011-010 SLO COUNTY, CA

Sheet Title: EROSION CONTROL DETAIL SHEET

Owner / Applicant: VINO FARMS, LLC 1377 E. LODI AVE. LODI, CA 95240

REGISTERED PROFESSIONAL ENGINEER BLAINE T. REELY Lic. No. 46806 Expires 6/30/21 CIVIL STATE OF CALIFORNIA
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Date: 10-09-2020
Scale: PER PLAN
Drawn by: ARR
Checked by: BTR
Sheet: C3.1

APPENDIX B

List of Plants and Animals Observed Onsite During the Survey

KMA

Appendix B – List of Plants and Animals Observed On and Surrounding the Study Area.

Scientific Name	Common Name
Plants	
Amsinckia menziesii	Menzies' fiddleneck
Asclepias fascicularis	narrow leaf milkweed
Avena barbata	slender wild oat
Baccharis pilularis	coyote brush
Bromus diandrus	ripgut brome
Bromus hordeaceus	soft chess
Bromus madritensis ssp. *madritensis*	foxtail chess
Castilleja exserta	purple owl's clover
Centaurea calcitrapa	purple star thistle
Centaurea solstitialis	yellow star-thistle
Cirsium vulgare	bull thistle
Convolvulus arvensis	field bindweed
Eremocarpus setigerus	turkey mullein
Erodium cicutarium	red-stemmed filaree
Hirschfeldia incana	Mediterranean hoary-mustard
Hordeum murinum	foxtail barley
Lactuca serriola	prickly wild lettuce
Logfia (=Filago) gallica	narrow-leaved cottonrose
Lotus wrangelianus	Chile lotus
Marrubium vulgare	horehound
Medicago polymorpha	burclover
Quercus douglasii	blue oak (not in study area)
Verbena lasiostachys	vervain
Vicia villosa	hairy vetch
Vitis vinifera	grape
Vulpia myuros	foxtail fescue
Animals	
Aphelocoma californica	California scrub-jay
Buteo jamaicensis	red-tailed hawk
Canis latrans	coyote (scat)
Corvus brachyrhynchos	American crow
Sialia mexicana	western blue bird
Spinus tristis	American goldfinch
Thomomys bottae	Botta's pocket gopher
Zenaida macroura	mourning dove

APPENDIX C

Photo Plate

KMA

Photo Plate

Photo 1. Northeasterly view of the proposed reservoir site showing disked areas and surrounding vineyards.

Photo 2. Northerly view of reservoir area that was not planted to vineyard, but is being used for equipment and materials storage and is being maintained through disking.

Photo 3. Easterly view of the proposed reservoir area in proximity to vineyard.

Photo 4. Westerly view of vineyard surrounding ruderal area proposed for reservoir.

Photo 5. Northwesterly view of reservoir project area showing agricultural activities and disturbed soil conditions.

Photo 6. Northerly view of reservoir footprint with extent of ruderal/disturbed ground in proximity to vineyard.

Photo 7. Another view of eastern limits of reservoir site (ruderal) adjacent to existing agriculture comprised of vineyard. The barn and residence along with planted trees are visible in the distance.

Photo 8. Southerly view from the limits of the reservoir disturbance footprint looking up the hillside at vineyard and two blue oaks on the top of hill.

Photo 9. 1989 aerial shows site and surrounding areas actively dry farmed including the reservoir site.

Photo 10. 2004 aerial shows the site had reverted to annual grassland as a result of not being farmed. Patchy coyote brush occurrences visible in some areas is an indicator of past soil disturbance. Neighboring property to the east is still being dry farmed.

APPENDIX D

Special-status Biological Resources Summary

KMA

Appendix D. Special-status Biological Resources Summary

Scientific Name	Common Name	Listing Status*			Habitat Requirements	Probability of Occurrence / Site Suitability / Observations
		Fed	CA	CDFW		
PLANTS						
Antirrhinum ovatum	oval-leaved snapdragon			4.2	Annual herb; Chaparral, cismontane woodland, pinon & juniper woodlands, valley & foothill grassland; 200-1000 meters; blooms May to November.	**Not expected.** The site was disked repeatedly in 2019 and 2020 for vineyard planting. Site does not provide suitable grassland habitat to support this species. Not observed during onsite surveys.
Aristocapsa insignis	Indian Valley spineflower			1B.2	Annual herb; Cismontane woodlands; occurs in sandy soils ranging from 300-600 meters in elevation; blooms May to September.	**Not expected.** No suitable cismontane woodland habitat in the study area, and no sandy soils are present. Site is also below the elevation range for this species. Not observed during site surveys.
California macrophylla	round-leaved filaree			1B.1	Annual herb commonly found on clay soils in cismontane woodland and valley and foothill grassland at elevations ranging from 15 to 1200 meters. Blooms March to May	**Not expected.** The site has been disked repeatedly and is not expected to provide suitable grassland habitat to support this species. Not observed during onsite surveys.
Calycadenia villosa	dwarf calycadenia			1B.1	Annual herb. Occurs in rocky soils in chaparral, cismontane woodland, valley and foothill grassland and meadows and seeps. Ranges from 425 to 1,130 meters in elevation. Blooms May to October.	**Not expected.** The site has been disked repeatedly and is not expected to provide suitable grassland habitat to support this species. Not observed during onsite surveys.
Calyptridium parryi var. *hesseae*	Santa Cruz Mountains pussypaws			1B.1	Annual herb; Chaparral, cismontane woodland on sandy or gravelly openings; 305-1530 meters in elevation; blooms May to August.	**Not expected.** Chaparral habitat and sandy openings are not present onsite. Not observed during site surveys.
Camissoniopsis hardhamiae	Hardham's evening-primrose			1B.2	Annual herb found in chaparral, cismontane woodland habitats on decomposed carbonate or recently burned soils; 330-500 meter elevation. Typically blooms March to May.	**Not expected.** Chaparral habitat and recently burned soils are not present onsite. Not observed during site surveys.
Castilleja densiflora ssp. *obispoensis*	San Luis Obispo owl's-clover			1B.2	Annual herb; Meadows, seeps, and valley and foothill grassland; 10 to 400 meters in elevation; blooms in April.	**Not expected.** The site was disked repeatedly in 2019 and 2020, and is not expected to provide suitable grassland habitat to support this species. Not observed during onsite surveys.

Scientific Name	Common Name	Listing Status*			Habitat Requirements	Probability of Occurrence / Site Suitability / Observations
		Fed	CA	CDFW		
Caulanthus lemmonii	Lemmon's jewel-flower			1B.2	Annual herb; pinyon and juniper woodland, valley and foothill grassland; from 80 to 1,220 meters elevation; blooms March to May	**Not expected.** The site was disked repeatedly in 2019 and 2020, and is not expected to provide suitable grassland habitat to support this species. Not observed during onsite surveys.
Chlorogalum purpureum var. *purpureum*	Santa Lucia purple amole	T		1B.1	Perennial bulbiferous herb; cismontane woodland, valley & foothill grassland, chaparral In gravelly and clay soils; 205-385 meters in elevation; blooms April to June.	**Not expected.** The site was disked repeatedly in 2019 and 2020, and is not expected to provide suitable grassland habitat to support this species. Not observed during onsite surveys.
Chorizanthe rectispina	straight-awned spineflower			1B.3	Annual herb; chaparral, cismontane woodlands, and coastal scrub communities from Monterey to San Luis Obispo counties; typically between 85-1035 meters in elevation; blooms April to July.	**Not expected.** No suitable coastal scrub, chaparral or woodland habitat present. The site was disked repeatedly in 2019 and 2020, and is not expected to provide suitable grassland habitat to support this species. Not observed during onsite surveys.
Delphinium umbraculorum	umbrella larkspur			1B.3	Perennial herb; found in granite of cismontane woodlands, chaparral, and coastal scrub; 85-1,035 meters in elevation; blooms May to July.	**Not expected.** The site does not support cismontane woodland, chaparral or coastal scrub habitats. Not observed during site surveys.
Entosthodon kochii	Koch's cord moss			1B.3	Moss; Cismontane woodland, valley & foothill grassland; 180-1000 meters in elevation.	**Not expected.** The site was disked repeatedly in 2019 and 2020, and is not expected to provide suitable grassland habitat to support this species. No woodland habitat is present in reservoir study area. Not observed during onsite surveys.
Githopsis tenella	delicate bluecup			1B.3	Annual herb; chaparral, cismontane woodland; 1100-1900 meters in elevation; blooms May to June.	**Not expected.** No suitable chaparral or woodland habitat in reservoir study area. Not observed during onsite surveys.
Horkelia cuneata var. *sericea*	Kellogg's horkelia			1B.1	Perennial herb; chaparral, closed-cone coniferous forest, coastal dunes, coastal scrub in sandy or gravelly openings; 10 to 200 meters in elevation; blooms April to September.	**Not Expected.** No suitable habitat present. Species occurs on loose sandy soils of marine origin in coastal scrub, chaparral and woodland habitats closer to the coast.

Scientific Name	Common Name	Listing Status*			Habitat Requirements	Probability of Occurrence / Site Suitability / Observations
		Fed	CA	CDFW		
Juncus luciensis	Santa Lucia dwarf rush			1B.2	Annual herb; chaparral, Great Basin scrub, lower montane coniferous forest, meadows and seeps, vernal pools from 300-2,040 meters in elevation; blooms April to July.	**Not Expected.** No suitable vernal pool or wetland habitat present. Not observed during surveys.
Lagophylla dichotoma	forked hare-leaf			1B.1	Annual herb; cismontane woodland, valley & foothill grassland; 50 to 760 meters; blooms April to September.	**Not expected.** The site was disked repeatedly in 2019 and 2020, and is not expected to provide suitable grassland habitat to support this species. No woodland habitat is present in reservoir study area. Not observed during onsite surveys.
Layia heterotricha	pale-yellow layia			1B.1	Annual herb; alkaline, clay and sandy soils in scrub, cismontane woodland, pinyon-juniper woodland, and valley and foothill grassland; 300 to 1,705 meters; blooms March to June.	**Not expected.** The site was disked repeatedly in 2019 and 2020, and is not expected to provide suitable grassland habitat to support this species. No woodland habitat is present in reservoir study area. Not observed during onsite surveys.
Lepidium jaredii ssp. *jaredii*	Jared's pepper-grass			1B.2	Annual herb; valley & foothill grassland; sandy or adobe soils; 335 to 1005 meters in elevation; blooms April to May.	**Not expected.** The site was disked repeatedly in 2019 and 2020, and is not expected to provide suitable grassland and vernal pool habitat to support this species. Not observed during onsite surveys.
Malacothamnus abbottii	Abbott's bush-mallow			1B.1	Perennial deciduous shrub; riparian scrub; 135 to 490 meters in elevation; restricted to Monterey County; blooms May to October.	**Not expected.** No suitable scrub habitat to support this species. Not observed during onsite surveys.
Malacothamnus aboriginum	Indian Valley bush-mallow			1B.2	Perennial deciduous shrub; chaparral, cismontane woodland in rocky, granitic (and often in burned areas); 150-1700 meters in elevation; blooms April to October.	**Not expected.** No suitable cismontane woodland habitat or rocky granitic terrain present. Not observed during onsite surveys.
Malacothamnus davidsonii	Davidson's bush-mallow			1B.2	Perennial deciduous shrub; chaparral, cismontane woodland, coastal scrub, riparian woodland; 185 to 855 meters in elevation; blooms June to January.	**Not expected.** No suitable scrub, chaparral or woodland habitats present in study area. Not observed during onsite surveys.

Scientific Name	Common Name	Listing Status*			Habitat Requirements	Probability of Occurrence / Site Suitability / Observations
		Fed	CA	CDFW		
Malacothrix saxatilis var. *arachnoidea*	Carmel Valley malacothrix			1B.2	Perennial rhizomatous herb; chaparral and coastal scrub; occurs on rock outcrops and rocky road cuts; 25 to 335 meters in elevation; blooms June to December.	**Not expected.** No suitable scrub, chaparral or woodland habitats or rock outcrops present in study area. Not observed during onsite surveys.
Monolopia gracilens	woodland woollythreads			1B.2	Annual herb; openings of broad-leaved upland forest, chaparral, cismontane woodland, north coast coniferous forest and valley and foothill grassland typically on serpentine; 100 to 1,200 meters in elevation. Blooms February to July.	**Not expected.** No suitable habitat or serpentine soils present onsite. Not observed during site surveys.
Navarretia nigelliformis ssp. *radians*	shining navarretia			1B.2	Annual herb; cismontane woodland, valley and foothill grassland habitat in swales adjacent to and on the rim of vernal pools; 76-1000 meters in elevation; blooms April to July.	**Not expected.** No suitable vernal pool habitat present, and grassland was disked repeatedly in 2019 and 2020 for vineyard planting. Not observed during site surveys.
Navarretia prostrata	prostrate vernal pool navarretia			1B.1	Annual herb; coastal scrub, valley & foothill grassland, vernal pool, wetland; 15-700 meters in elevation; blooms April to July.	**Not expected.** No suitable vernal pool habitat present onsite, and grassland was disked repeatedly in 2019 and 2020 for vineyard planting. Not observed during site surveys.
Plagiobothrys uncinatus	hooked popcornflower			1B.2	Annual herb; grows in chaparral, cismontane woodland, valley and foothill grassland, and canyon sides; rocky outcrops; 300-730 meters in elevation; blooms April to May.	**Not expected.** No suitable chaparral or woodland habitats present. Site historically dry farmed, then repeatedly disked in 2019 and 2020 for vineyard planting. Not observed during site surveys.
Stebbinsoseris decipiens	Santa Cruz microseris			1B.2	Annual herb; broadleaved upland forest, chaparral, closed-cone coniferous forest, coastal prairie, coastal scrub; 10-500 meters in elevation; blooms April to May.	**Not Expected.** No suitable forest or scrub habitats present. Grassland areas were repeatedly disked in 2019 and 2020 for vineyard planting. Species is more common in coastal areas, but has been recorded on Camp Roberts. Not observed during site surveys.

Scientific Name	Common Name	Listing Status*			Habitat Requirements	Probability of Occurrence / Site Suitability / Observations
		Fed	CA	CDFW		
Triteleia ixioides ssp. *cookii*	Cook's triteleia			1B.3	Perennial bulbiferous herb; cismontane woodland, closed-cone coniferous forest in moist places; 150-700 meters in elevation; blooms May to June.	**Not expected.** No suitable woodland habitats present in study area. Not observed during onsite surveys.
ANIMALS						
Agelaius tricolor	tricolored blackbird			SSC	Nests in freshwater marshes with tules or cattails, or in other dense vegetation such as thistle, blackberry, thickets, etc., in close proximity to open water. Forages in a variety of habitats including pastures, agricultural fields, rice fields, and feedlots.	**Unlikely.** No suitable nesting habitat present, and small reservoir study area would be unlikely to provide quality foraging habitat. Could potentially fly over the site when moving between areas of suitable habitat, and forage onsite.
Anniella pulchra	Northern CA legless lizard			SSC	Coastal dune and coastal scrub habitat types, fossorial species requires loose friable soils covered by leaf litter.	**Not Expected.** No suitable coastal scrub or oak woodland habitat onsite. No sandy soils to support this burrowing animal.
Antrozous pallidus	pallid bat			SSC	Roosts in rock crevices, caves, mine shafts, under bridges, in buildings and tree hollows.	**Potential.** Could potentially forage over the vineyards and use oak trees in the area for roosting.
Aquila chrysaetos	golden eagle			FP	Uncommon resident of mountainous and valley-foothill areas. Nesting occurs on cliff ledges and overhangs or in large trees. Foraging typically occurs in open terrain where small rodent prey is seen while soaring high above ground.	**Unlikely.** No suitable nesting or foraging habitat present. Regular human presence and ongoing agricultural activities reduce the quality of habitat onsite. Site is small and situated amongst active vineyard. Could potentially fly over the site and perch in oak trees on the larger property, but no small mammal prey base observed in project footprint for foraging.

Scientific Name	Common Name	Listing Status*			Habitat Requirements	Probability of Occurrence / Site Suitability / Observations
		Fed	CA	CDFW		
Ardea herodias	great blue heron			WL	Marshes, lake margins, tide-flats, rivers, and wet meadows. Nests communally in large trees and cliff sides, typically adjacent to marshes and water bodies. Rookery site are in close proximity to foraging areas.	**Unlikely.** No suitable nesting habitat present in reservoir study area. Vineyards and disturbed areas repeatedly disked and mowed provide poor quality foraging habitat for this species, especially considering the extensive open space areas on Camp Roberts and along the Salinas River corridor to the east. Could fly over the site while moving between areas of suitable habitat.
Athene cunicularia	burrowing owl			SSC	Open and dry grasslands, nests in burrows typically constructed by ground squirrels.	**Unlikely.** No suitable habitat present onsite and no small mammal activity was observed. No burrows were observed in the reservoir study area or surrounding vineyards that could be used by this species. Could potentially fly over the site during movement between areas of suitable habitat, but no nesting or high quality foraging habitat was identified onsite.
Bombus crotchii	Crotch bumble bee		CE		Inhabits grasslands and scrub, especially hot and dry areas. It nests and overwinters underground. Food plants include milkweed, lupine, phacelia, sage, clarkia, poppy, and buckwheat.	**Unlikely.** No food plants were seen in the disturbed agricultural areas onsite. Little information available about local distribution and status of this species, but no burrows or mall holes suitable for overwintering queens were observed. Disking and farming has removed suitable habitat from the study area. Numerous honey bee hives in the area may also adversely affect the species since non-native honey bees have contributed to genetic contamination and spread of pathogens.

Scientific Name	Common Name	Listing Status*			Habitat Requirements	Probability of Occurrence / Site Suitability / Observations
		Fed	CA	CDFW		
Branchinecta lynchi	vernal pool fairy shrimp	T			Endemic to vernal pools in grasslands of central coast mountains and valleys; inhabits small clear-water sandstone or soil depression pools and grassland swales. It is able to complete its life cycle in shallow water with little to no current in 16 days.	**Not expected.** No vernal pool habitat observed in study area during field surveys or aerial photo interpretation. Project site is located on upper hill away from any drainage feature. Drainages on the larger property contain flowing water and no evidence of prolonged standing water was present during surveys. Channels with flowing water are not suitable for this species. Soils are well-drained and deep ripping/disking for vineyards has further increased soil permeability. Site is within critical habitat for species, but no suitable seasonal aquatic habitat was observed.
Buteo regalis	ferruginous hawk			WL	Open, level, or rolling prairies; foothills or middle elevation plateaus largely devoid of trees; and cultivated shelterbelts or riparian corridors. These hawks typically avoid high elevations, forest interiors, narrow canyons, and cliff areas, and forage over a large area.	**Unlikely.** No suitable habitat for this species in the reservoir footprint or surrounding vineyards. Could fly over the site given the close proximity to Camp Roberts, but would not be expected to nest or roost in the study area.
Corynorhinus townsendii	Townsend's big-eared bat			SSC	Desert scrub, grassland, sagebrush, chaparral, oak woodlands, riparian and coniferous forests; prefers mesic habitats and closely tied to rock cliffs with crevasses. Roosts in caves, cliffs, mines, tunnels and bridges.	**Potential.** Could forage onsite, but no structures for roosting are present. Individuals and roost sites have been recorded in the vicinity.
Dendroica petechia brewsteri	yellow warbler			SSC	Riparian plants, prefers willows, cottonwoods, aspens, sycamores and alders for resting and foraging; resident, winter/breeding migrant	**Unlikely.** No suitable habitat present in reservoir study area, but species could fly over the site while moving between areas of suitable habitat.
Emys marmorata	western pond turtle			SSC	Permanent or nearly permanent water bodies in many habitats.	**Not expected.** No suitable habitat present in study area. No records in the immediate vicinity of the reservoir site, and no suitable upland movement habitat onsite.

Scientific Name	Common Name	Listing Status*			Habitat Requirements	Probability of Occurrence / Site Suitability / Observations
		Fed	CA	CDFW		
Eremophila alpestris actia	California horned lark			WL	Sparse coastal sage scrub, grasslands; resident.	**Unlikely.** No suitable coastal sage scrub or grassland habitat onsite. Does not use agricultural areas for nesting, and site is small with regular human activity. Could potentially fly over or forage onsite, but would not be expected to nest in the study area.
Falco mexicanus	prairie falcon			WL	Catches pray in air and in open ground in grasslands, Nests in cliffs overlooking large areas; resident, breeding migrant.	**Unlikely.** Site lacks high cliffs where this species generally nests. Species could fly over and forage onsite, but no suitable prey base observed and is not expected to nest onsite.
Haliaeetus leucocephalus	bald eagle			FP	Nests in mature open canopies of large trees within 1 mile of a large water source.	**Unlikely.** No suitable aquatic habitat that could provide foraging habitat, and no suitable nesting habitat onsite. Species could occur as a rare transient flying over the site, but is not expected to forage or nest onsite.
Lanius ludovicianus	loggerhead shrike			SSC	Open country with low vegetation and well-spaced shrubs or trees such as coastal scrub, grasslands, agricultural fields, pastures, riparian areas, desert scrub, savannas, prairies, golf courses, and along roadsides where they prey on insects, amphibians, reptiles and small mammals. Nests in trees, shrubs, or brush piles. Occurs in this area year-round.	**Potential.** While no suitable grassland or scrub habitats are present in the study area for foraging or nesting habitat, species is known from the area and could fly over the site or perch while hunting. Not expected to nest onsite.
Lasiurus cinereus	hoary bat				Roosts in dense foliage of large trees. Requires water. Prefers open habitats or habitat mosaics with access to trees for cover and open areas of habitat edge for feeding.	**Potential.** Suitable foraging habitat present over agricultural areas. No suitable roost sites present in project study area.
Masticophis flagellum ruddocki	San Joaquin coachwhip			SSC	Occurs in open, dry, treeless areas, including grassland and saltbush scrub. Takes refuge in rodent burrows, under shaded vegetation, and under surface objects.	**Unlikely.** No suitable habitat present since site has been repeatedly disked in 2019 and 2020. No small mammal burrows observed in reservoir footprint during surveys.

Scientific Name	Common Name	Listing Status*			Habitat Requirements	Probability of Occurrence / Site Suitability / Observations
		Fed	CA	CDFW		
Perognathus inornatus inornatus	San Joaquin pocket mouse			SSC	Typically found in grasslands and blue oak savanna habitats. Needs friable soils.	**Not expected.** No suitable habitat present in reservoir area, and no sandy soils for burrowing are present. Agricultural activities have removed any potentially suitable habitat in reservoir footprint.
Perognathus inornatus psammophilus	Salinas pocket mouse			SSC	Burrows in sandy and other friable soils of grasslands and savannah habitats in the Salinas Valley.	**Not expected.** No suitable habitat present in reservoir area, and no sandy soils for burrowing are present. Agricultural activities have removed any potentially suitable habitat in reservoir footprint.
Phrynosoma blainvillii	coast horned lizard			SSC	Frequents a wide variety of habitat including sandy washes with scattered shrubs and open areas for sunning. Loose soils for burial.	**Not Expected.** Site lacks sandy habitat required for this species. Site has been disked and surrounding agricultural areas do not represent suitable habitat.
Rana boylii	Foothill yellow-legged frog – Central Coast Population		E	SSC	Rocky streams and rivers with open sunny banks, surrounded by forests, chaparral and woodlands. Sometimes found in isolated pools, backwaters, and spring-fed pools. Reproduction is exclusively in streams and rivers. Usually found near water and diurnal.	**Not expected.** This species has been extirpated from this area since 1975-1978, and the closest extant populations are from Rocky Point along the coast near the SLO – Monterey County line. Drainage features on the larger property are ephemeral and do not provide suitable habitat.
Spea hammondii	western spadefoot			SSC	Occurs primarily in grassland habitats where it emerges from underground burrows to breed in short-lived vernal pools and long-lived puddles; also occurs in valley-foothill woodlands near areas of seasonally ponded water.	**Unlikely.** Site was historically dry-farmed, and then disked and deep ripped in 2019 and 2020 for vineyard development. No potential breeding sites observed during surveys.
Taxidea taxus	American badger			SSC	Open grasslands and the edge of scrub and woodland habitats; requires dry loose soils for burrowing and shelter and feeds on a variety of small mammals such as California ground squirrel and pocket gopher.	**Potential.** No suitable denning habitat or prey base observed in study area. Suitable habitat present along drainage corridors near the site, and species is known to occur in the area. No sign of badger observed during surveys, but could move through the area while foraging or moving between areas of suitable habitat.

Scientific Name	Common Name	Listing Status*			Habitat Requirements	Probability of Occurrence / Site Suitability / Observations
		Fed	CA	CDFW		
Vireo bellii pusillus	least Bell's vireo	E	E	WL	Riparian forest near permanent water or in dry river bottoms below about 600 meters elevation.	**Not Expected.** No suitable riparian habitat present. Could potentially fly over the site when moving through the area, but most likely would be moving along the Salinas River corridor to the east.
Vulpes macrotis mutica	San Joaquin kit fox	E	T		Found in grassland, open shrubby areas, and in some agricultural settings. Needs loose textured sandy-soils for burrowing, and suitable prey base consisting of ground squirrels, other small mammals, birds and insects.	**Potential.** No suitable denning habitat or prey base observed in study area. In the past, the general area supported a satellite population, which included observations of species immediately west and south of site. No sign or evidence of kit fox observed during onsite surveys, but could occur in study area while foraging or moving between areas of suitable habitat
SENSITIVE NATURAL COMMUNITIES						
California Sycamore Woodlands - State Rarity Rank S3						**Absent.** Not observed in the study area during site surveys.
Central Coast Arroyo Willow Riparian Forest/Scrub – State Rarity Rank S3						**Absent.** Not observed in the study area during site surveys.
Coastal and Valley Freshwater Marsh — State Rarity Rank S2 and S3						**Absent.** Not observed in the study area during site surveys.
Vernal Pool — State Rarity Rank S2						**Absent.** Not observed in the study area during site surveys or review of aerial imagery.
Valley Needlegrass Grassland — State Rarity Rank S3						**Absent.** Not observed in the study area during site surveys.
Valley Oak Woodland – State Rarity Rank S2						**Absent.** Not observed in the study area during site surveys.

DESIGNATED CRITICAL HABITAT	
South-Central California Coast DPS Steelhead	**Absent.** No drainage features present in the study area. The drainage features adjacent to the agricultural lease area are too ephemeral to support this species and are not identified as critical habitat. Occurs further east along Salinas River.
Vernal Pool Fairy Shrimp	**Present.** Critical habitat unit 29-F covers the eastern part of the agricultural lease area adjacent to Camp Roberts. This includes a drainage feature and surrounding hillsides to the northeast of the reservoir site. No suitable vernal pool habitat, seasonal aquatic sites, topographic depressions or other vernal pool habitat attributes are present in reservoir footprint. Deep ripping, disking and vineyard planting have increased soil permeability throughout the area.

**FE – listed as Endangered under federal Endangered Species Act; SE – listed as Endangered under California Endangered Species Act; SR – listed as Rare under California Endangered Species Act; ST - listed as Threatened under California Endangered Species Act; SSC – DFW Species of Special Concern; WL – List of Birds of Conservation Concern; 1A = Plants presumed extinct in California; 1B.1 = Rare or endangered in California and elsewhere; seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat); 1B.2 = Rare or endangered in California and elsewhere; fairly endangered in California (20-80% occurrences threatened); 1B.3 = Rare or endangered in California and elsewhere, not very endangered in California (<20% of occurrences threatened or no current threats known); 2 = Rare, threatened or endangered in California, but more common elsewhere; 3 = Plants needing more information (most are species that are taxonomically unresolved; some species on this list meet the definitions of rarity under CNPS and CESA); 4.2 = Plants of limited distribution (watch list), fairly endangered in California (20-80% occurrences threatened); and 4.3= Plants of limited distribution (watch list), not very endangered in California. Threatened and Endangered Species Active Critical Habitat Report (United States Fish and Wildlife Service 2021).*

APPENDIX E

SJKF Habitat Evaluation
(KMA, 2021)

KMA

Kevin Merk Associates, LLC | P.O. Box 318, San Luis Obispo, CA 93406 | 805-748-5837

February 2, 2021

Mr. Tavo Acosta
Vino Farms
1377 East Lodi Avenue
Lodi, California 95240

Subject: San Joaquin Kit Fox Habitat Evaluation for the West San Miguel Irrigation and Frost Protection Reservoir Project (APN 027-011-010), San Luis Obispo County, California

Dear Mr. Acosta:

Kevin Merk Associates, LLC (KMA) at your request, conducted a San Joaquin kit fox (*Vulpes macrotis mutica*; SJKF) habitat evaluation for a proposed irrigation and frost protection reservoir on a portion of land located on a property identified by Assessor's Parcel Number 027-011-010 in northern San Luis Obispo County, California. The subject property is approximately 310 acres located near the terminus of Allende Road adjacent to Camp Roberts' southeastern boundary northwest of the unincorporated town of San Miguel, California. The property and proposed reservoir site are located in the southwest section of the United States Geological Survey San Miguel 7.5-minute topographic quadrangle, and the center of the site is at 35° 45' 55"N 120° 43' 28.34"W.

The original evaluation used a site plan prepared by Monsoon (dated September 17, 2019), which was subsequently revised in October 2020. The Habitat Evaluation was revised accordingly using this updated site plan. The purpose of the habitat evaluation process was to characterize the extent of onsite habitat for the federal endangered and state threatened SJKF potentially affected from the implementation of proposed project. In addition, the habitat evaluation process was used to determine if the property and supporting land uses are consistent with the currently identified mitigation ratio of 4:1 developed for this area by the County of San Luis Obispo (2007). Following are the methods and results of the SJKF Habitat Evaluation.

Methods

The investigation generally followed the Early Evaluation requirements established by the U.S. Fish and Wildlife Service in their San Joaquin Kit Fox Survey Protocol for the Northern Range (June 1999). Prior to field work, previous biological reports, including SJKF habitat evaluations and studies prepared by KMA in the vicinity were reviewed. This included Early Evaluations and Northern Range Protocol Surveys completed for projects in San Miguel and along the Highway 46 East Corridor. In addition, the California Natural Diversity Database (CNDDB) maintained by the California Department of Fish and Wildlife (CDFW) was queried in 2019 and again for this updated evaluation for SJKF occurrences within three and ten miles of the site. Classification of the on-site plant communities was based generally on the California Wildlife Habitat Relationship (CWHR)

system (Mayer and Laudenslayer, 1988 as updated online) and was compared to Sawyer, Keeler-Wolf and Evens' Manual of California Vegetation (2009) and Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986) for consistency with the SJKF Habitat Evaluation Form.

Kevin Merk conducted an initial site visit on December 18, 2019 to characterize existing conditions of the property and area proposed for reservoir construction. Since the site plan was revised, and a year had lapsed since the first survey was completed, another survey was conducted on December 15, 2020. During each survey, the property was driven using existing ranch roads, and the proposed reservoir site and surrounding 500 foot buffer were inspected and surveyed on foot to characterize the site and search for potential den sites. Photos of the site were taken, and a photo plate is included as an attachment to this report. Dominant plant communities onsite and in the region were recorded onto an aerial photograph obtained from Google Earth (2019 and 2020). Driving surveys of the surrounding area (existing ranch roads, Allende Road, Highway 101, and Mission Street) were conducted to characterize regional habitat within a ten-mile study area.

Results

The project site lies within a rural residential area of northern San Luis Obispo County with grazing land, horse facilities and vineyards nearby. The property is accessed via Allende Road off Highway 101 and Mission Street, and abuts Camp Roberts Army National Guard Installation to the north and west. Please refer to Figures 1 and 2 for site location information. The topography of the larger property is composed of moderate to steep sloping hillsides with mixed aspect. Site drainage is generally towards the Salinas River to the east. Elevations on the larger property range from approximately 650 feet above mean sea level (MSL) in the southeast corner to approximately 830 feet MSL in the northwest. The reservoir site is located on a topographic saddle at approximately 740 feet MSL. Based on historic aerial imagery obtained from Google Earth, prior to the conversion to vineyard, the property primarily consisted of heavily grazed grassland dotted with coyote brush (*Baccharis pilularis*). Prior to 1990, it appears that the property was part of a larger dryland grain farming operation. This was confirmed through personal communication with the property owner. The larger property is bisected by two primary drainage features with blue oak (*Quercus douglasii*) woodland/savanna located in the northern part of the property. The reservoir is proposed to occur in a gentle topographic saddle between the two drainage areas.

Dominant habitat types, or plant communities, within the ten-mile radius of the project site included vineyards and rural residential development to the south. Steeper hills on Camp Roberts to the north and west contain grassland and blue oak woodland and savanna. Developed areas, include Camp Roberts to the north, the town of San Miguel to the southeast and Paso Robles further to the south. Please refer to the attached figures included as supporting information: Figure 1 - a Site Location Map, Figure 2 - Aerial Overview Map, and Figure 3 - SJKF Occurrence Map. Also attached is the Habitat Evaluation form, photo plate and the site plan.

Based on the completion of the SJKF Habitat Evaluation Process, the property where the proposed reservoir is proposed scored 68 points out of 100. Please refer to the Habitat Evaluation Form for further detail. Assuming the 1:1 mitigation ratio score is from 50-59 points, the score of 68 for this property would equate to the high end of the 2:1 mitigation ratio. This is due to the site being in the satellite population area and no SJKF individuals observed in three miles of the site within the last

ten years. The updated score and subsequent mitigation ratio of 2:1 is not consistent with the current mitigation ratio of 4:1 shown on the attached San Joaquin Kit Fox Mitigation Ratio Areas Map maintained by the County of San Luis Obispo (2007).

Conclusion

The proposed project will affect disked annual grassland in an agricultural area (i.e., vineyard). No potential den sites or sign (scat, tracks or prey remains) of SJKF were observed onsite during the survey. While historically, the SJKF was known to occur in the immediate area, no recorded sightings of this species have occurred within three miles of the site in the last ten years. Consultation with Camp Roberts environmental division staff (personal communication with Michael Moore, 2019) confirmed ongoing survey work on the Base has not resulted in recent sightings of SJKF that were not logged in the CNDDB. Please refer to Figure 3 and the Habitat Evaluation Form for further detail.

As stated above, the reservoir site scored 68 points out of 100 equating to a 2:1 mitigation ratio. This will equate to an in-lieu fee mitigation payment in the amount of $5,000 for each acre of disturbance. Based on the revised plan to impact 1.75 acres of the site, the in-lieu fee would equate to $7,000 [(1.75 x 2) x 2 = $7,000]. The County of San Luis Obispo will request a review of the information contained herein by the CDFW. Following the County's and CDFW's review, payment arrangements can be made through the County with either an approved in-lieu fee program (through the Nature Conservancy) or by purchasing credits from an approved conservation bank (e.g., Palo Prieto Conservation Bank).

It is recommended that in order to avoid impacts to SJKF and other biological resources in the area during construction and operation of the reservoir, measures detailed in the U.S. Fish and Wildlife Services' *Standardized Recommendations For Protection of the Endangered San Joaquin Kit Fox Prior To Or During Ground Disturbance* (2011; please see attached) be implemented. By incorporating these avoidance measures into the project, the potential for adverse impacts to SJKF from the construction of the proposed reservoir would be avoided.

References

California Department of Fish and Wildlife. 2021. California Natural Diversity Database. Queried December 2019/2020 and January 2021.

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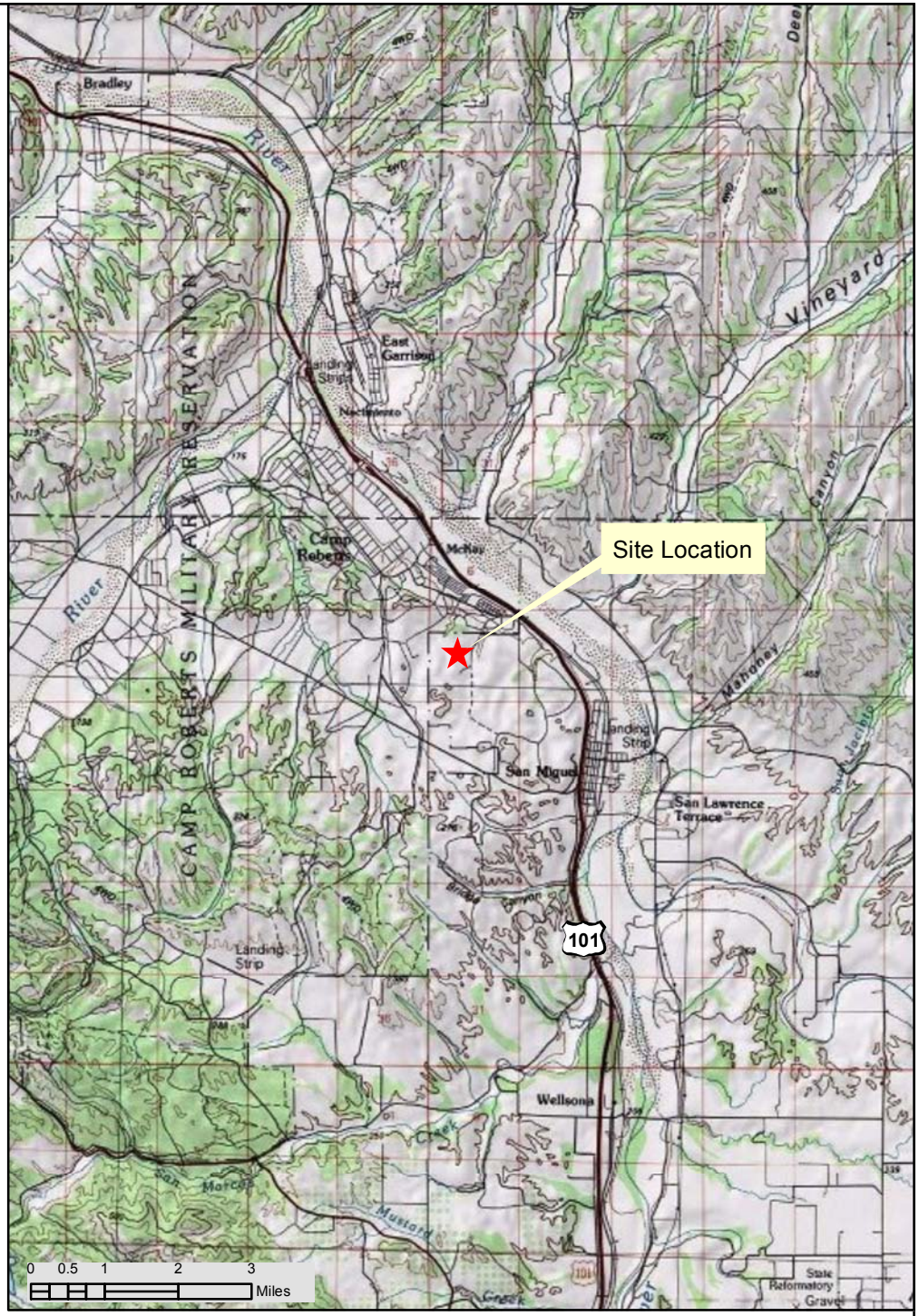
Thank you for the opportunity to provide environmental consulting services for this project. I trust the above information is sufficient at this time to support your reporting requirements for the proposed project. Please call or email me if you have any questions or need any additional information.

Sincerely,
Kevin Merk Associates, LLC

Kevin Merk
Principal Biologist

Attachments: *Figure 1 – Site Location Map*
Figure 2 – Aerial Overview Map
Figure 3 – CNDDB SJKF Occurrence Map
Kit Fox Habitat Evaluation Form
Photo Plate
Site Plans (Monsoon Consultants, 10/9/2020 – see BRA Appendix A)
USFWS Standardized Recommendations For Protection of the Endangered San Joaquin Kit Fox Prior To Or During Ground Disturbance (January 2011)



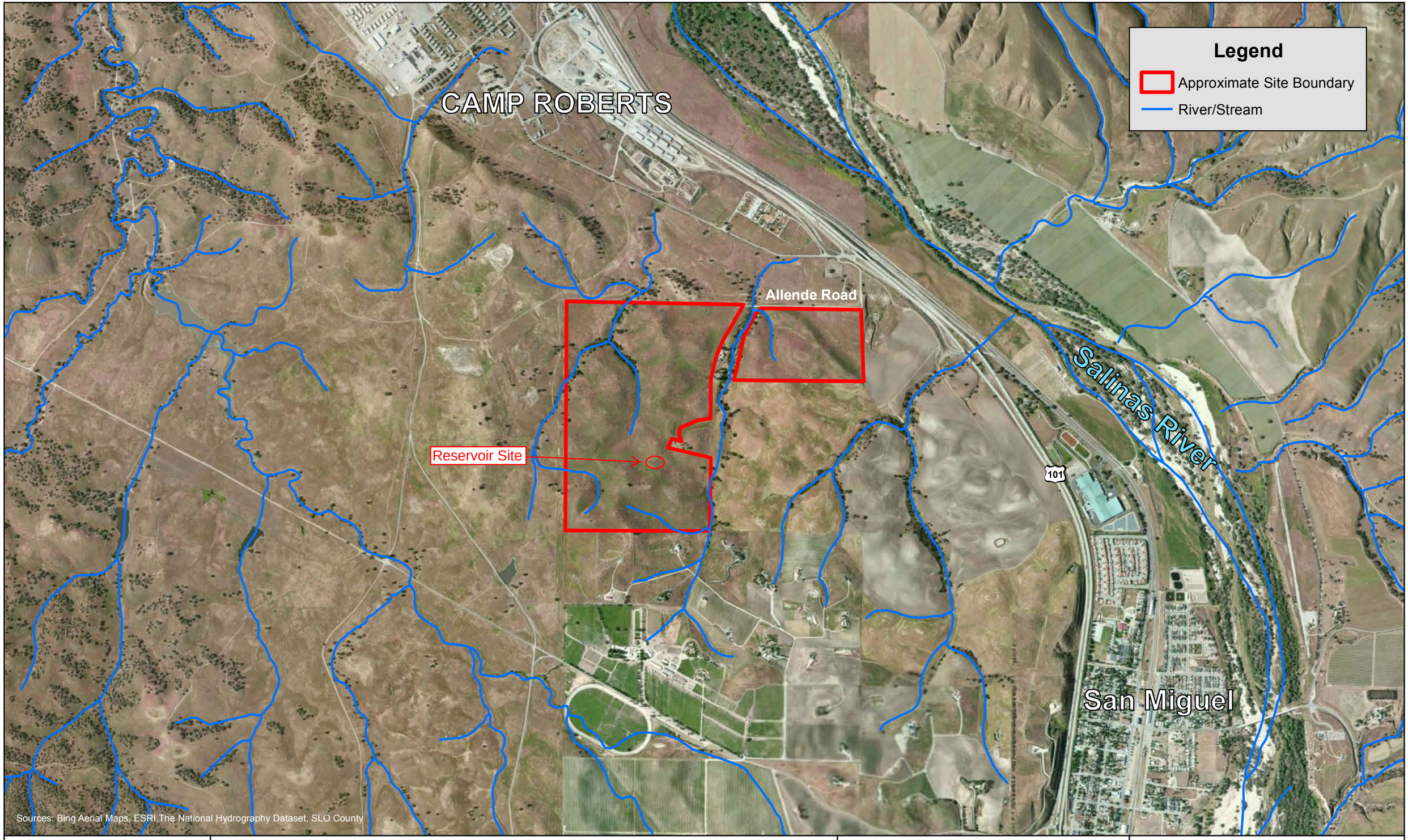
KEVIN MERK ASSOCIATES

West San Miguel Reservoir

Vino Farms

Figure 1

Site Location



KEVIN MERK ASSOCIATES

N W E S

1 inch = 1,500 feet

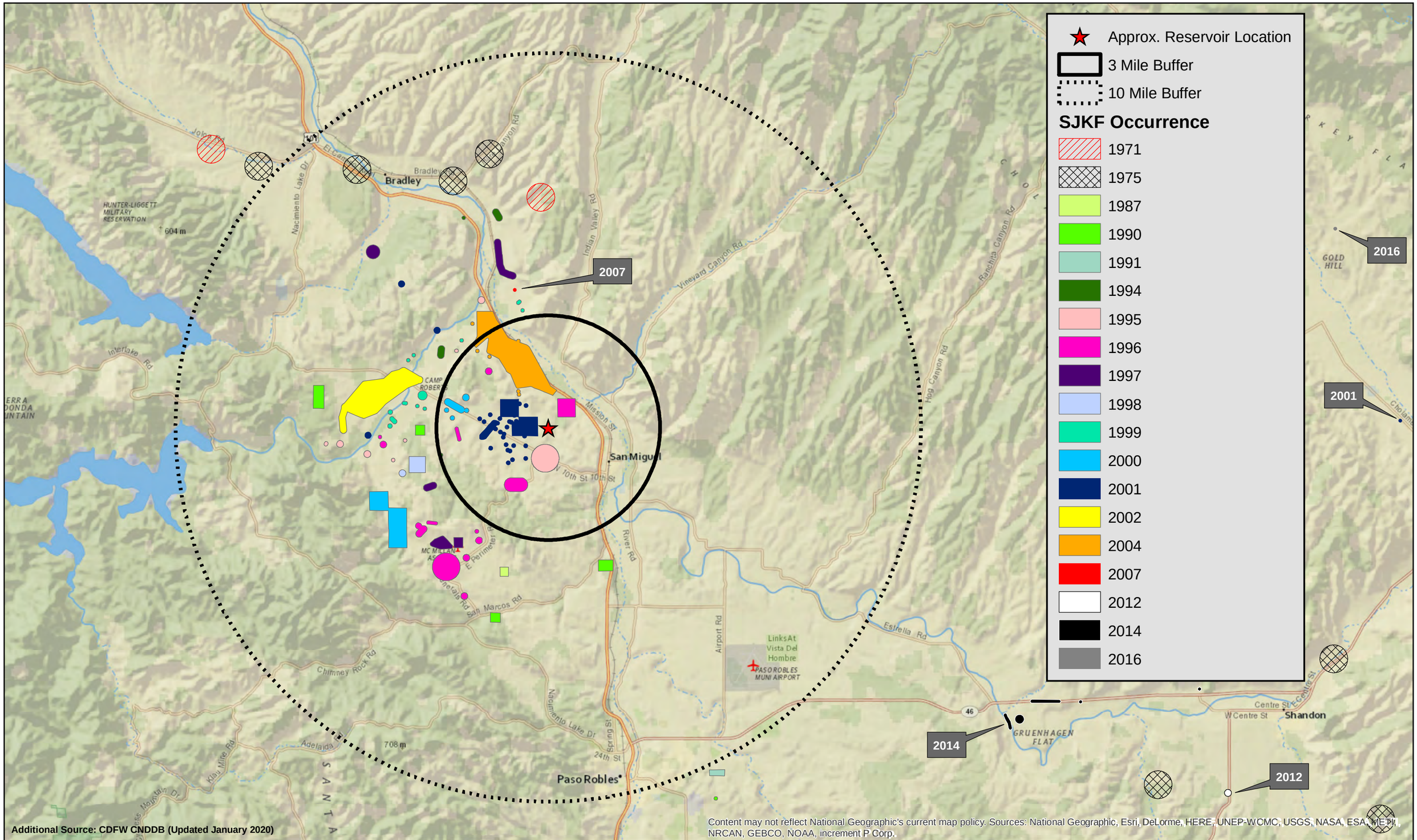
0 190 380 760 1,140 1,520 Meters

West San Miguel Reservoir

Vino Farms

Figure 2

Aerial Overview Map



KEVIN MERK ASSOCIATES

N W E S

0 1.25 2.5 5 7.5 10 Miles

West San Miguel Irrigation and Frost Protection Reservoir

Vino Farms

Figure 3

SJKF Occurrence Map

Kit Fox Habitat Evaluation Form

Cover Sheet

Project Name: West San Miguel Irrigation and Frost Protection Reservoir **Date:** 2/2/2021

Project Location* On a property identified by APN 027-011-010 located west of Highway 101 and south of Camp Roberts, San Luis Obispo County (northeast of San Miguel, CA)

*Please refer to the Project Plans prepared by Monsoon (3/4/2020).

U.S.G.S. Quad Map Name San Miguel

Lat/Long or UTM coordinates (if available)

Latitude 35° 45' 55" N Longitude -120° 43' 28.34" W

Project Description: Construct a frost protection and irrigation pond for vineyard on a property located immediately south of Camp Roberts northeast of San Miguel.

Project Size 5.0 **Acres** **Amount of Kit Fox Habitat Affected** 1.75 **Acres**

Quantity of WHR Habitat Types Impacted (i.e. - 2 acres annual grassland, 3 acres blue oak woodland)

WHR type Disked Annual Grassland 1.75 Acres

WHR type _____ _____ Acres

WHR type _____ _____ Acres

WHR type _____ _____ Acres

Comments: Area proposed for reservoir consists of historic dry farmed grain fields that were fallow with annual grassland, then were deep-ripped, disked and planted to vineyard.

Form Completed By: Kevin Merk, Kevin Merk Associates LLC.

San Joaquin Kit Fox Habitat Evaluation form

Is the project area within 10 miles of a recorded San Joaquin kit fox observation or within contiguous suitable habitat as defined in question 2 (A-E)

Yes - Continue with evaluation form
No - Evaluation form/surveys are not necessary

1. Importance of the project area relative to Recovery Plan for Upland Species of the San Joaquin Valley, California (Williams et al., 1998)

A. Project would block or degrade an existing corridor linking core populations or isolate a subpopulation (20)
B. Project is within core population (15)
C. Project area is identified within satellite population (12)
D. Project area is within a corridor linking satellite populations (10)
E. Project area is not within any of the previously described areas but is within known kit fox range (5)

2. Habitat characteristics of project area.

A. Annual grassland or saltbush scrub present >50% of site (15)
B. Grassland or saltbush scrub present but comprises<50% of project area (10)
C. Oak savannah present on >50% of site (8)
D. Fallow ag fields or grain/alfalfa crops (7)
E. Orchards/vineyards (5)
F. Intensively maintained row crops or suitable vegetation absent (0)

3. Isolation of project area.

A. Project area surrounded by contiguous kit fox habitat as described in Question 2a-e (15)
B. Project area adjacent to at least 40 acres of contiguous habitat or part of an existing corridor (10)
C. Project area adjacent to <40 acres of habitat but linked by existing corridor (i.e., river, canal, aqueduct) (7)
D. Project area surrounded by ag but less than 200 yards from habitat (5)
E. Project area completely isolated by row crops or development and is greater than 200 yards from potential habitat (0)

4. Potential for increased mortality as a result of project implementation. Mortality may come from direct (e.g., - construction related) or indirect (e.g., - vehicle strikes due to increases in post development traffic) sources.

A. Increased mortality likely (10)
B. Unknown mortality effects (5)
C. No long-term effect on mortality (0)

Form Revised 03-02

5. Amount of potential kit fox habitat affected.

A. >320 acres (10)
B. 160 - 319 acres (7)
C. 80 - 159 acres (5)
D. 40 - 79 acres (3)
E. < 40 acres (1)

6. Results of project implementation.

A. Project site will be permanently converted and will no longer support foxes (10)
B. Project area will be temporarily impacted but will require periodic disturbance for ongoing maintenance (7)
C. Project area will be temporarily impacted and no maintenance necessary (5)
D. Project will result in changes to agricultural crops (2)
E. No habitat impacts (0)

7. Project Shape

A. Single Block (10)
B. Linear with > 40 foot right-of-way (5)
C. Linear with < 40 foot right-of-way (3)

8. Have San Joaquin kit foxes been observed within 3 miles of the project area within the last 10 years?

A. Yes (10)
B. No (0)

Scoring

Recovery importance	12
Habitat condition	15
Isolation	15
Mortality	5
Quantity of habitat impacted	1
Project results	10
Project shape	10
Recent observations	0

TOTAL 68

Explanations for San Joaquin Kit Fox

Habitat Evaluation Form

1. Importance of the project area relative to Recovery Plan for Upland Species of the San Joaquin Valley, California (Williams et al., 1998)

The project occurs northwest of San Miguel on a property immediately adjacent to Camp Roberts. The site is to the west of Highway 101 and is within the historic satellite population on Camp Roberts. The reservoir project is surrounded by historic occurrence observations that are over 10 years old, most of which were made from studies on Camp Roberts.

2. Habitat characteristics of project area.

The subject site consists of bare ground from disking where the reservoir will be constructed. Review of aerial imagery available on Google Earth showed the site consisted of annual grassland and patchy coyote brush scrub habitats prior to conversion to vineyard. The site is recently planted to vineyard and the reservoir will be surrounded by agricultural roads and infrastructure and the planted grape vines. Annual grassland was selected since the site was recently disturbed for farming.

3. Isolation of project area.

The project site is within an agricultural area that was used for dryland farming prior to 1994. After that time, it appears the site was used only for cattle and horse grazing with periodic disking of fence lines and the property boundaries. The site is and will continue to be permeable to kit fox movement, with the exception of the reservoir footprint. Annual grassland and blue oak woodland are present along drainage corridors and steeper north facing slopes on the property. Extensive areas of natural habitat comprised of grassland and oak woodland and savanna are present on Camp Roberts, which directly abuts the northern property line.

4. Potential for increased mortality as a result of project implementation.

The proposed project consists of the construction of an agricultural reservoir on approximately 1.75 acres of a 310-acre property. It is unlikely that any kit fox mortality will occur during construction activities, and the applicant will implement the USFWS *Standardized Recommendations For Protection of the Endangered San Joaquin Kit Fox Prior To Or During Ground Disturbance* (January 2011). For the purpose of this habitat evaluation, it is unknown if a kit fox could be killed by construction activities. Fencing will be installed around the reservoir and it is highly unlikely that a kit fox would accidentally fall into the water and drown, and therefore, unknown mortality effects was selected.

5. Amount of potential kit fox habitat affected.

The project site consists of disked annual grassland that showed evidence of historic dry farmed agricultural activities. Review of historic aerial imagery showed the site was dry farmed until the early 1990's but has not been farmed until the current vineyard operation commenced. There

were no potential denning habitat or prey base present in the proposed irrigation pond footprint or the surrounding vineyard area inspected during the survey. Construction activities for the reservoir will occur entirely within disked areas that were intensively grazed grassland since dryland farming ceased in the 1990's. Once completed, the pond will be surrounded by chain link fencing, and this 1.75 acre area will no longer be available for kit fox movement.

6. Results of project implementation.

The approximately 9.57-acre feet reservoir will have 1.75 acres that consists of the reservoir and disturbed earthen berms that are surrounded by chain link fencing. The area will no longer be available to support kit fox movement. Ample area will be maintained onsite to support kit fox movement through the property even with vineyard development. For this kit fox habitat evaluation it is estimated that approximately 1.75 acres, consisting of all disturbance areas that will be surrounded by the perimeter fence surrounding the reservoir, will not be available for kit fox movement habitat as a result of project implementation.

7. Project shape

The proposed project consists of the construction of an irrigation and frost protection pond that is consistent with the single block answer in the habitat evaluation form.

8. Have San Joaquin kit foxes been observed within 3 miles of the project area within the last 10 years?

There are no recorded observations of kit fox in the last 10 years within 3 miles of the reservoir project site. As shown on the SJKF Occurrence Map, the most recent observation records identified in the CNDDB within three of the site were from 2004. Just outside the 3 mile buffer is a recorded occurrence on Camp Roberts from 2007. Other occurrence records from the immediate area are nearly 20 years old, with many from the 1990's. Communications with Camp Roberts Environmental Staff indicated no new SJKF observations have been made beyond those reported in the CNDDB.

Photo Plate

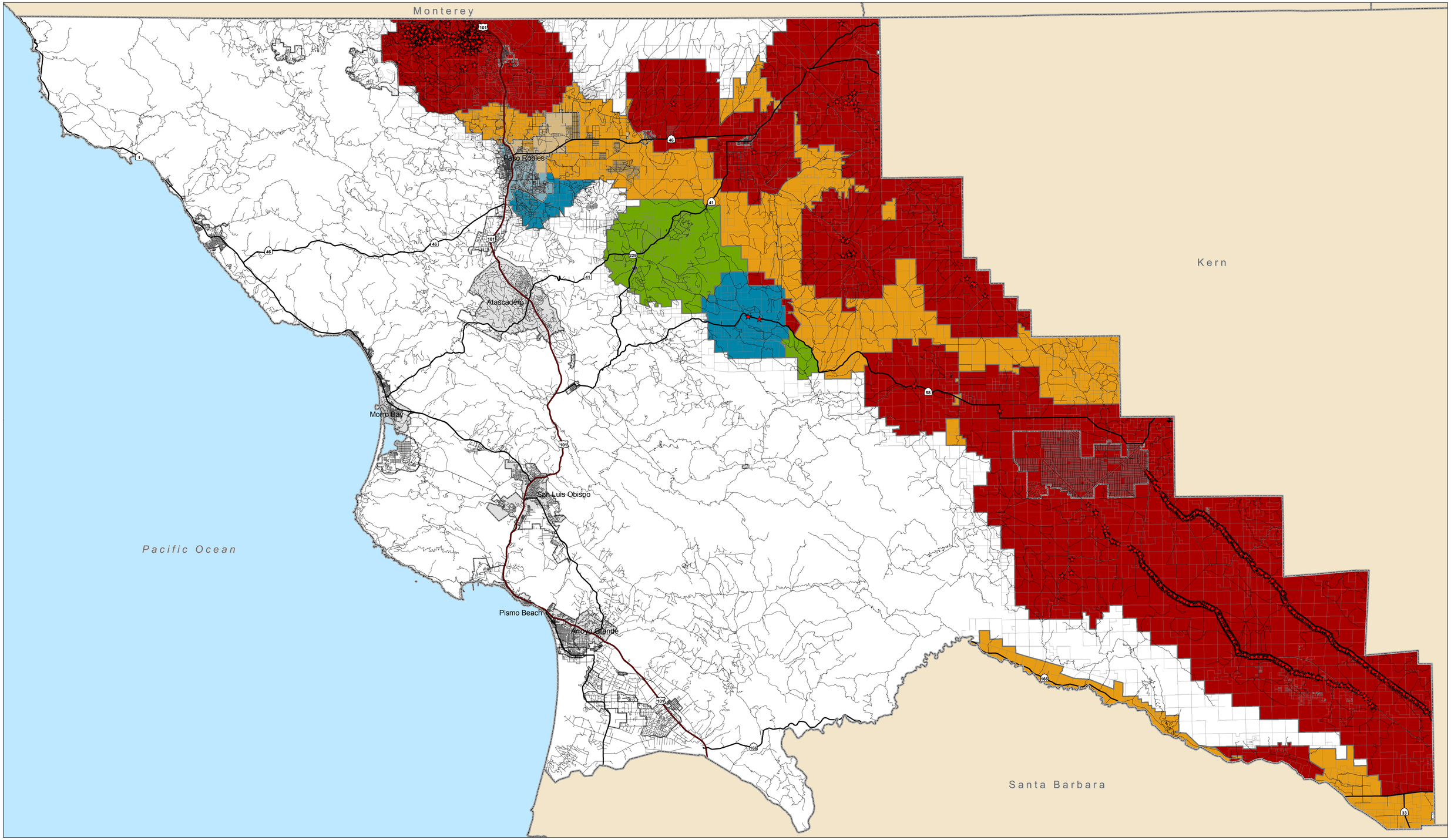
Photo 1. Easterly view of proposed reservoir located in disked annual grassland adjacent to developing vineyard.

Photo 2. Northeasterly view of the center of the proposed reservoir. Note staking.

Photo 3. Northerly view of reservoir construction zone showing annual grassland and vineyard habitats.

Photo 4. Another view of the proposed reservoir footprint in a small topographic saddle area.

San Joaquin Kit Fox Standard Mitigation Ratio Areas



Legend

Standard Mitigation Ratio

- 1:1
- 2:1
- 3:1
- 4:1

- SJKF Sightings (Last 10 yrs.)
- Highway 101
- State Highways

- City Limits
- Urban Areas
- Parcels

N

0 5 10 20
Miles

Geographic Technology & Design
DEPARTMENT OF PLANNING & BUILDING

Revised: December 2007

U.S. FISH AND WILDLIFE SERVICE STANDARDIZED RECOMMENDATIONS FOR PROTECTION OF THE ENDANGERED SAN JOAQUIN KIT FOX PRIOR TO OR DURING GROUND DISTURBANCE

Prepared by the Sacramento Fish and Wildlife Office
January 2011

INTRODUCTION

The following document includes many of the San Joaquin kit fox (*Vulpes macrotis mutica*) protection measures typically recommended by the U. S. Fish and Wildlife Service (Service), prior to and during ground disturbance activities. **However, incorporating relevant sections of these guidelines into the proposed project is not the only action required under the Endangered Species Act of 1973, as amended (Act) and does not preclude the need for section 7 consultation or a section 10 incidental take permit for the proposed project.** Project applicants should contact the Service in Sacramento to determine the full range of requirements that apply to your project; the address and telephone number are given at the end of this document. Implementation of the measures presented in this document may be necessary to avoid violating the provisions of the Act, including the prohibition against "take" (defined as killing, harming, or harassing a listed species, including actions that damage or destroy its habitat). These protection measures may also be required under the terms of a biological opinion pursuant to section 7 of the Act resulting in incidental take authorization (authorization), or an incidental take permit (permit) pursuant to section 10 of the Act. The specific measures implemented to protect kit fox for any given project shall be determined by the Service based upon the applicant's consultation with the Service.

The purpose of this document is to make information on kit fox protection strategies readily available and to help standardize the methods and definitions currently employed to achieve kit fox protection. The measures outlined in this document are subject to modification or revision at the discretion of the Service.

IS A PERMIT NECESSARY?

Certain acts need a permit from the Service which includes destruction of any known (occupied or unoccupied) or natal/pupping kit fox dens. Determination of the presence or absence of kit foxes and /or their dens should be made during the environmental review process. All surveys and monitoring described in this document must be conducted by a qualified biologist and these activities do not require a permit. A qualified biologist (biologist) means any person who has completed at least four years of university training in wildlife biology or a related science and/or has demonstrated field experience in the identification and life history of the San Joaquin kit fox. In addition, the biologist(s) must be able to identify coyote, red fox,

gray fox, and kit fox tracks, and to have seen a kit fox in the wild, at a zoo, or as a museum mount. Resumes of biologists should be submitted to the Service for review and approval prior to an6y survey or monitoring work occurring.

SMALL PROJECTS

Small projects are considered to be those projects with small foot prints, of approximately one acre or less, such as an individual in-fill oil well, communication tower, or bridge repairs. These projects must stand alone and not be part of, or in any way connected to larger projects (i.e., bridge repair or improvement to serve a future urban development). The Service recommends that on these small projects, the biologist survey the proposed project boundary and a 200-foot area outside of the project footprint to identify habitat features and utilize this information as guidance to situate the project to minimize or avoid impacts. If habitat features cannot be completely avoided, then surveys should be conducted and the Service should be contacted for technical assistance to determine the extent of possible take.

Preconstruction/preactivity surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity likely to impact the San Joaquin kit fox. Kit foxes change dens four or five times during the summer months, and change natal dens one or two times per month (Morrell 1972). Surveys should identify kit fox habitat features on the project site and evaluate use by kit fox and, if possible, assess the potential impacts to the kit fox by the proposed activity. The status of all dens should be determined and mapped (see Survey Protocol). Written results of preconstruction/preactivity surveys must be received by the Service within five days after survey completion and prior to the start of ground disturbance and/or construction activities.

If a natal/pupping den is discovered within the project area or within 200-feet of the project boundary, the Service shall be immediately notified and under no circumstances should the den be disturbed or destroyed without prior authorization. If the preconstruction/preactivity survey reveals an active natal pupping or new information, the project applicant should contact the Service immediately to obtain the necessary take authorization/permit.

If the take authorization/permit has already been issued, then the biologist may proceed with den destruction within the project boundary, except natal/pupping den which may not be destroyed while occupied. A take authorization/permit is required to destroy these dens even after they are vacated. Protective exclusion zones can be placed around all known and potential dens which occur outside the project footprint (conversely, the project boundary can be demarcated, see den destruction section).

OTHER PROJECTS

It is likely that all other projects occurring within kit fox habitat will require a take authorization/permit from the Service. This determination would be made by the Service during the early evaluation process (see Survey Protocol). These other projects would include, but are not limited to: Linear projects; projects with large footprints such as urban development; and projects which in themselves may be small but have far reaching impacts (i.e., water storage or conveyance facilities that promote urban growth or agriculture, etc.).

The take authorization/permit issued by the Service may incorporate some or all of the protection measures presented in this document. The take authorization/permit may include measures specific to the needs of the project and those requirements supersede any requirements found in this document.

EXCLUSION ZONES

In order to avoid impacts, construction activities must avoid their dens. The configuration of exclusion zones around the kit fox dens should have a radius measured outward from the entrance or cluster of entrances due to the length of dens underground. The following distances are **minimums**, and if they cannot be followed the Service must be contacted. Adult and pup kit foxes are known to sometimes rest and play near the den entrance in the afternoon, but most above-ground activities begin near sunset and continue sporadically throughout the night. Den definitions are attached as Exhibit A.

Potential den**	50 feet
Atypical den**	50 feet
Known den*	100 feet
Natal/pupping den (occupied and unoccupied)	Service must be contacted

*Known den: To ensure protection, the exclusion zone should be demarcated by fencing that encircles each den at the appropriate distance and does not prevent access to the den by kit foxes. Acceptable fencing includes untreated wood particle-board, silt fencing, orange construction fencing or other fencing as approved by the Service as long as it has openings for kit fox ingress/egress and keeps humans and equipment out. Exclusion zone fencing should be maintained until all construction related or operational disturbances have been terminated. At that time, all fencing shall be removed to avoid attracting subsequent attention to the dens.

**Potential and Atypical dens: Placement of 4-5 flagged stakes 50 feet from the den entrance(s) will suffice to identify the den location; fencing will not be required, but the exclusion zone must be observed.

Only essential vehicle operation on existing roads and foot traffic should be permitted. Otherwise, all construction, vehicle operation, material storage, or any other type of surface-disturbing activity should be prohibited or greatly restricted within the exclusion zones.

DESTRUCTION OF DENS

Limited destruction of kit fox dens may be allowed, if avoidance is not a reasonable alternative, provided the following procedures are observed. The value to kit foxes of potential, known, and natal/pupping dens differ and therefore, each den type needs a different level of protection. **Destruction of any known or natal/pupping kit fox den requires take authorization/permit from the Service**.

Destruction of the den should be accomplished by careful excavation until it is certain that no kit foxes are inside. The den should be fully excavated, filled with dirt and compacted to ensure that kit foxes cannot reenter or use the den during the construction period. If at any point during excavation, a kit fox is discovered inside the den, the excavation activity shall cease immediately and monitoring of the den as described above should be resumed. Destruction of the den may be completed when in the judgment of the biologist, the animal has escaped, without further disturbance, from the partially destroyed den.

Natal/pupping dens: Natal or pupping dens which are occupied will not be destroyed until the pups and adults have vacated and then only after consultation with the Service. Therefore, project activities at some den sites may have to be postponed.

Known Dens: Known dens occurring within the footprint of the activity must be monitored for three days with tracking medium or an infra-red beam camera to determine the current use. If no kit fox activity is observed during this period, the den should be destroyed immediately to preclude subsequent use.

If kit fox activity is observed at the den during this period, the den should be monitored for at least five consecutive days from the time of the observation to allow any resident animal to move to another den during its normal activity. Use of the den can be discouraged during this period by partially plugging its entrances(s) with soil in such a manner that any resident animal can escape easily. Only when the den is determined to be unoccupied may the den be excavated under the direction of the biologist. If the animal is still present after five or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of a biologist, it is temporarily vacant, for example during the animal's normal foraging activities.

The Service encourages hand excavation, but realizes that soil conditions may necessitate the use of excavating equipment. However, extreme caution must be exercised.

Potential Dens: If a take authorization/permit has been obtained from the Service, den destruction may proceed without monitoring, unless other restrictions were issued with the take authorization/permit. If no take authorization/permit has been issued, then potential dens should be monitored as if they were known dens. If any den was considered to be a potential den, but is later determined during monitoring or destruction to be currently, or previously used by kit fox (e.g., if kit fox sign is found inside), then all construction activities shall cease and the Service shall be notified immediately.

CONSTRUCTION AND ON-GOING OPERATIONAL REQUIREMENTS

Habitat subject to permanent and temporary construction disturbances and other types of ongoing project-related disturbance activities should be minimized by adhering to the following activities. Project designs should limit or cluster permanent project features to the smallest area possible while still permitting achievement of project goals. To minimize temporary disturbances, all project-related vehicle traffic should be restricted to established roads, construction areas, and other designated areas. These areas should also be included in preconstruction surveys and, to the extent possible, should be established in locations disturbed by previous activities to prevent further impacts.

1. Project-related vehicles should observe a daytime speed limit of 20-mph throughout the site in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. Night-time construction should be minimized to the extent possible. However if it does occur, then the speed limit should be reduced to 10-mph. Off-road traffic outside of designated project areas should be prohibited.

2. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than 2-feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the Service and the California Department of Fish and Game (CDFG) shall be contacted as noted under measure 13 referenced below.

3. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is

discovered inside a pipe, that section of pipe should not be moved until the Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.

4. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or project site.

5. No firearms shall be allowed on the project site.

6. No pets, such as dogs or cats, should be permitted on the project site to prevent harassment, mortality of kit foxes, or destruction of dens.

7. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the Service. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox.

8. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the Service.

9. An employee education program should be conducted for any project that has anticipated impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and/or agency personnel involved in the project. The program should include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information should be prepared for distribution to the previously referenced people and anyone else who may enter the project site.

10. Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. should be

re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with the Service, California Department of Fish and Game (CDFG), and revegetation experts.

11. In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the Service should be contacted for guidance.

12. Any contractor, employee, or military or agency personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the CDFG immediately in the case of a dead, injured or entrapped kit fox. The CDFG contact for immediate assistance is State Dispatch at (916)445-0045. They will contact the local warden or Mr. Paul Hoffman, the wildlife biologist, at (530)934-9309. The Service should be contacted at the numbers below.

13. The Sacramento Fish and Wildlife Office and CDFG shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The Service contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFG contact is Mr. Paul Hoffman at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.

14. New sightings of kit fox shall be reported to the California Natural Diversity Database (CNDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the Service at the address below.

Any project-related information required by the Service or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at:

Endangered Species Division
2800 Cottage Way, Suite W2605
Sacramento, California 95825-1846
(916) 414-6620 or (916) 414-6600

EXHIBIT "A" - DEFINITIONS

"Take" - Section 9 of the Endangered Species Act of 1973, as amended (Act) prohibits the "take" of any federally listed endangered species by any person (an individual, corporation, partnership, trust, association, etc.) subject to the jurisdiction of the United States. As defined in the Act, take means " . . . to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct". Thus, not only is a listed animal protected from activities such as hunting, but also from actions that damage or destroy its habitat.

"Dens" - San Joaquin kit fox dens may be located in areas of low, moderate, or steep topography. Den characteristics are listed below, however, the specific characteristics of individual dens may vary and occupied dens may lack some or all of these features. Therefore, caution must be exercised in determining the status of any den. Typical dens may include the following: (1) one or more entrances that are approximately 5 to 8 inches in diameter; (2) dirt berms adjacent to the entrances; (3) kit fox tracks, scat, or prey remains in the vicinity of the den; (4) matted vegetation adjacent to the den entrances; and (5) manmade features such as culverts, pipes, and canal banks.

"Known den" - Any existing natural den or manmade structure that <u>is used or has been used at any time in the past</u> by a San Joaquin kit fox. Evidence of use may include historical records, past or current radiotelemetry or spotlighting data, kit fox sign such as tracks, scat, and/or prey remains, or other reasonable proof that a given den is being or has been used by a kit fox. The Service discourages use of the terms "active" and "inactive" when referring to any kit fox den because a great percentage of occupied dens show no evidence of use, and because kit foxes change dens often, with the result that the status of a given den may change frequently and abruptly.

"Potential Den" - Any subterranean hole within the species' range that has entrances of appropriate dimensions for which available evidence is insufficient to conclude that it is being used or has been used by a kit fox. Potential dens shall include the following: (1) any suitable subterranean hole; or (2) any den or burrow of another species (e.g., coyote, badger, red fox, or ground squirrel) that otherwise has appropriate characteristics for kit fox use.

"Natal or Pupping Den" - Any den used by kit foxes to whelp and/or rear their pups. Natal/pupping dens may be larger with more numerous entrances than dens occupied exclusively by adults. These dens typically have more kit fox tracks, scat, and prey remains in the vicinity of the den, and may have a broader apron of matted dirt and/or vegetation at one or more entrances. A natal den, defined as a den in which kit fox pups are actually whelped but not necessarily reared, is a more restrictive version of the pupping den. In practice, however, it is difficult to distinguish between the two, therefore, for purposes of this definition either term applies.

"Atypical Den" - Any manmade structure which has been or is being occupied by a San Joaquin kit fox. Atypical dens may include pipes, culverts, and diggings beneath concrete slabs and buildings.