FINAL

ENVIRONMENTAL ASSESSMENT

Airfield Pavement and Facilities Improvements

Oceano County Airport
San Luis Obispo County
Oceano, California

Prepared For

San Luis Obispo County Department of Airports
975 Airport Drive, Suite 1, San Luis Obispo, California 93401

U. S. Department of Transportation
Federal Aviation Administration
As lead Federal Agency pursuant to the National Environmental Policy Act of 1969

Prepared by
RS&H, California

JUNE 2021

This Environmental Assessment becomes a Federal document when evaluated, signed, and dated by the responsible FAA Official.

June 17, 2021

Responsible FAA Official **Date**

GENERAL INFORMATION ABOUT THIS DOCUMENT

WHAT'S IN THIS DOCUMENT? This document contains a Draft Environmental Assessment (EA) for the San Luis Obispo County proposed Airfield Pavement and Facilities Improvements Project at Oceano County Airport (L52). This document discloses the analysis and findings of the potential impacts of Proposed Action, the No Action Alternative, and other reasonable alternatives. This Proposed Action would encroach on a 100-year floodplain.

BACKGROUND. The Draft EA was released on April 26, 2021. The notice of availability of the Draft EA was advertised in the local newspaper to inform the general public and other interested parties about the Draft EA and to provide an opportunity to request a public hearing regarding the Proposed Action.

WHAT SHOULD YOU DO? Read the Final EA to understand the actions that the County and FAA intend to take relative to the Proposed Action.

WHAT HAPPENS AFTER THIS? The FAA will decide to prepare and issue a Finding of No Significant Impact (FONSI) or decide to prepare an Environmental Impact Statement.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WESTERN-PACIFIC REGION

FINDING OF NO SIGNIFICANT IMPACT

Airfield Pavement
and
Facilities Improvements

Oceano County Airport
San Luis Obispo County Oceano, California

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June 17, 2021

GENERAL INFORMATION ABOUT THIS DOCUMENT

WHAT'S IN THIS DOCUMENT? This document is the Federal Aviation Administration's (FAA) Finding of No Significant Impact (FONSI) for the proposed airfield pavement and facilities improves at Oceano Airport in Oceano, California. This document includes the agency determinations and approvals for those proposed Federal actions described in the Final Environmental Assessment dated June 16, 2021. This document discusses all alternatives considered by FAA in reaching its decision, summarizes the analysis used to evaluate the alternatives, and briefly summarizes the potential environmental consequences of the Proposed Action Alternative and the No Action Alternative, which are evaluated in detail in this FONSI.

BACKGROUND. In October, 2020, the County of San Luis Obispo, through its Department of Airports, prepared a Draft Environmental Assessment (Draft EA). The DEA addressed the potential environmental effects of the proposed airfield pavement and facilities improvements including various reasonable alternatives to that proposal. The Draft EA was prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) [Public Law 91-190, 42 USC 4321-4347], the implementing regulations of the Council on Environmental Quality (CEQ) [Title 40, Code of Federal Regulations (C.F.R.) Parts 1500-1508], and FAA Orders 1050.1F, *Environmental Impacts: Policies and Procedures* and 5050.4B, *National Environmental Policy Act (NEPA), Implementing Instructions for Airport Actions*. San Luis Obispo County published the Notice of Availability for the Draft EA on April 26, 2021. One written comment was received on the Draft EA between April 26, 2021 and May 27, 2021.

The comments were focused on the increase in runoff due to the increase in impervious surfaces at the Airport.

FAA approved the Final EA on June 16, 2021.

WHAT SHOULD YOU DO? Read the FONSI to understand the actions that FAA intends to take relative to the proposed airfield pavement and facilities improvements at Oceano Airport.

WHAT HAPPENS AFTER THIS? The County of San Luis Obispo Department of Airports may begin to implement the Proposed Action Alternative.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
FINDING OF NO SIGNIFICANT IMPACT

AIRFIELD PAVEMENT AND FACILITIES IMPROVEMENTS

OCEANO COUNTY AIRPORT
SAN LUIS OBISPO COUNTY, OCEANO, CALIFORNIA

1. **Introduction.** This document is a Finding of No Significant Impact (FONSI) prepared pursuant to the National Environmental Policy Act of 1969 (NEPA) for the proposed airfield pavement and facilities improvements at Oceano Airport, Oceano, California. The County of San Luis Obispo, through its Airport Department is the airport sponsor. The Federal Aviation Administration (FAA) must comply with NEPA and other applicable statutes before taking any federal actions that are necessary prior to implementation of the project. NEPA requires that after preparing an Environmental Assessment, federal agencies must decide whether to issue a Finding of No Significant Impact and approve the proposed project, or prepare an environmental impact statement prior to rendering a final decision on approval of a proposed project. The FAA has completed the environmental assessment, considered its analysis, and determined that no further environmental review is required. Therefore, the FAA is issuing this FONSI, accompanied and supported by the FAA's Final Environmental Assessment (Final EA) completing environmental review requirements for the project.

2. **Purpose and Need.** Chapter 1 of the Final EA describes the purpose and need for the proposed project. The purpose and need includes the following elements.

    1. Enhancing safety at Oceano County Airport by modifying runways and taxiways to meet FAA Airport Design standards for the current critical aircraft at the airport.
    2. Upgrading the airfield electrical distribution system to provide a more efficient source of electrical power to current and proposed airfield lighting and equipment.
    3. Enhancing environmental quality in surrounding water bodies by Installing a pollution control facility (wash rack) to provide a location to wash aircraft where used wash water can be collected and treated to protect water quality consistent with current water quality regulations and permit conditions.

3. **Proposed Project and Federal Actions.** The Proposed Action evaluated in this FONSI includes the following major project components (See Section 1.2, 2.2.2.1 and Figure 1-3 of the Final EA):

    1. **Widen Runway 11-29 from 50 to 60 feet.** This improvement will enhance safety by meeting the FAA airport design standards for an ARC A-I airport. This component includes grading and paving the runway and grading the shoulders on either side of the runway to maintain required runway shoulder widths and drainage of stormwater flows to the existing drainage system. This project element also includes the replacement of existing runway edge lighting consisting of MIRL.

2. **Widen Taxiways A, A-1, A-2, A-3, and A-4 from 20 to 25 feet.** This improvement will also enhance safety by meeting the FAA airport design standard for an ARC A-I airport. The project includes grading and paving on either side of the taxiways, maintenance of required taxiway shoulder widths, and stormwater drainage consistent with FAA Airport Design standards. The project includes the replacement and installation of new taxiway edge lighting and the necessary extension of electrical power supply.

3. **Relocate segmented circle and wind cone.** Relocating the existing segmented circle and lighted wind cone will enhance safety by improving the visibility of the wind cone for pilots taking off to the northwest; the predominant direction of operations at the Airport. Moving the wind cone and associated segmented circle about 360 feet to the southeast will place it closer to the center of the runway, enhancing visibility for pilots taking off to the northwest. The project also includes an extension of the vehicle service road to the facilities and the extension of electrical power from the new electrical vault.

4. **Install taxiway edge lighting.** The project is to install taxiway edge lighting along the widened taxiways.

5. **Install hold position signage.** The project consists of the installation of hold position signage at each of seven runway crossings in compliance with AC/150 5340.18f. This component will enhance safety by improving pilot situational awareness and reduce the possibility of runway incursions when the runway is in use.

6. **Install a new electrical vault and electrical connections.** The Airport's current electrical vault is obsolete and would not accommodate the additional electrical demand associated with the proposed runway and taxiway lights. The new electrical vault to be located near the rotating beacon, closer to the airfield lighting systems it would support, thus reducing the length of electrical lines to the rotating beacon as well as the new and relocated airfield lighting. The project also includes demolition of the existing electrical vault along with existing vehicle parking and the existing office / house. This structure is obsolete and no longer justifies the ongoing costs of maintenance.

7. **Install a pollution control facility (wash rack).** This stormwater best management practice would be installed on existing pavement manage the aircraft wash water runoff. The wash rack would require the extension of power and water supply as well as the installation of appropriate stormwater runoff containment infrastructure consisting of collection piping and an oil/water separator. First flush stormwater (up to 0.5-inches) and wash water would be directed to the oil/water separator and then conveyed to the South San Luis Obispo County Sanitation District wastewater treatment facility located on Honolulu Street immediately adjacent to the Airport. The County will obtain a Class II Industrial User Permit to discharge aircraft washing effluent to the wastewater treatment facility. Required annual reports will typically include the following information.
    a. Quantities of discharge each month over the previous year,
    b. The results of self-monitoring conducted three times per year. Sampling results typically include biochemical oxygen demand, total suspended solids, and pH.

FAA will take the following actions to authorize implementation of the proposed projects:

- Unconditional approval of the Airport Layout Plan (ALP) depicting the proposed improvements pursuant to Title 49 U.S.C. 40103(b), *Sovereignty and Use of Airspace,* 44718, *Structures Interfering with Air Commerce or National Security,* and 47107(a)(16), *Project Grant Application Approval Conditioned on Assurances about*

Airport Operations; Title 14, C.F.R. Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*; and 14 C.F.R. Part 157, *Notice of Construction, Alteration, Activation, and Deactivation of Airports*;

- Determinations under Title 49 U.S.C. § 47106, *Project Grant Application Approval Conditioned on Satisfaction of Project Requirements,* and § 47107, *Project Grant Application Approval Conditioned on Assurances about Airport Operations,* relating to the eligibility of the Proposed Action for federal funding under the Airport Improvement Program (AIP) and/or under Title 49 U.S.C. § 40117, *Passenger Facility Charges,* as implemented by 14 C.F.R. § 158.25, *Applications*, to impose and use passenger facility charges (PFCs) collected at the Airport for the Proposed Action to assist with construction of potentially eligible development items shown on the ALP; and

- If necessary, approval of a construction safety and phasing plan to maintain aviation and airfield safety during construction pursuant to FAA Advisory Circular 150-5370-2F, *Operational Safety on Airports During Construction*, under 14 C.F.R. Part 139, *Airport Certification* (49 U.S.C. § 44706, *Airport Operating Certificates*).

4. **Reasonable Alternatives Considered.** Chapter 2 of the Final EA, used a two-step alternatives analysis screening process including:

   Step 1 – Would the alternative meet the purpose of and need for the Proposed Action.

   Step 2 – Would the alternative be feasible to construct within operational and physical site constraints at the Airport? Would the alternative be practical to operate?

   1. **Widen Runway 11-29 from 50 to 60 feet.** This improvement must be constructed along the length of the runway, which limits the range of possible alternatives. The possible alternatives to widening the runway described below would not be reasonable alternatives to the Proposed Action.
      a. Widening the runway on one side or the other of the centerline rather than equally widening on both sides of the runway centerline. The centerline of the runway forms a slight ridge to shed water to the edges. Widening one side would result in an uneven surface for aircraft. Therefore, widening the runway an equal amount (5 feet) on both sides of the centerline to maintain an even runway surface centered on the runway centerline is the preferable approach and widening the runway an unequal amount on either side of the centerline was eliminated from detailed consideration.
      b. Partially widening the runway or widening only portions of the runway. This concept would not meet the need for this project because it would not meet FAA Airport Design standards. This alternative was eliminated from detailed consideration.
      c. Relocate the runway. This alternative would require substantially more infrastructure development with associated costs and disturbance of undeveloped areas. The existing runway could not be relocated within the Airport boundaries while maintaining FAA airport design standards of a 150-foot runway centerline to parallel taxiway centerline for an ARC A-1 airport. In addition to the high cost of such an alternative, it could also require an acquisition of property to the south of the airport to provide sufficient area to meet FAA ARC A-1 runway-to-parallel taxiway separation standards. This alternative was eliminated from detailed evaluation due to its high cost.

2. **Widen Taxiways A, A-1, A-2, A-3, and A-4 from 20 to 25 feet.** Possible alternatives to widen these connecting taxiways to less than 25 feet would not meet FAA airport design standards but would have environmental impacts essentially the same as widening the taxiways to 25 feet. Therefore, alternatives of widening the connecting taxiways to less than 25 feet were not evaluated in detail.

3. **Relocate segmented circle and wind cone.** This improvement could be constructed at other locations on the Airport, subject to siting constraints including the need to remain outside of runway and taxiway safety areas while remaining visible to pilots on either end of Runway 11-29. Figure 2-1 of the EA shows the middle portion of the runway in which the wind cone would be visible to aircraft at either end of the runway. The proposed wind cone and segmented circle location is in the eastern portion of this area, well away from wetlands in the western portion of the proposed area. Other locations within the appropriate area to relocate the segmented circle and wind cone which are not an equal distance from each end of the runway provide less utility to the airport. Therefore, such alternatives were eliminated from detailed evaluation.

4. **Install taxiway edge lighting.** This improvement is fixed by function in that taxiway edge lights can only be located on the taxiway edge. No alternatives other than the No Action Alternative are possible.

5. **Install hold position signage.** This improvement is fixed by function. Position hold signage can only be installed at runway crossings. No alternatives other than the No Action Alternative are possible.

6. **Install a new electrical vault and electrical connections.** This improvement could be constructed at other locations on the Airport, subject to siting constraints including the need to remain outside of runway and taxiway safety areas while providing reasonable access to airfield facilities. However, other locations would require more extensive trenching for power cables to the airfield lighting system with similar environmental impacts and slightly higher costs. Therefore, alternative locations for this facility were eliminated from detailed evaluation.

7. **Install a pollution control facility (wash rack).** This improvement could be constructed at other locations on the Airport. Figure 2-1 of the EA shows that the proposed location is adjacent to the Airport's aircraft hangars and parking positions. Other locations would require greater taxiing times for aircraft with similar environmental impacts. Therefore, alternative locations for a pollution-control facility were eliminated from detailed consideration.

Section 2.2 of the EA discusses the alternatives retained for further consideration. The analyses documented in Chapter 4 of the EA shows that the Proposed Action would not cause significant impacts to natural or human resources. In the absence of "unresolved conflicts concerning alternative uses of available resources," only the No Action Alternative and Proposed Action were retained for further consideration.

5. Assessment. The potential environmental impacts and possible adverse effects were identified and evaluated in the Final EA. The Final EA has been reviewed by the FAA and found to be adequate for the purpose of the proposed Federal actions. The FAA determined that the Final EA for the proposed project adequately describes the potential impacts of the Proposed Action Alternative. No new issues surfaced as a result of the public review process.

The Final EA examined the following environmental impact categories: Air Quality Biological Resources, Climate, Coastal Resources, Department of Transportation Act Section 4(f), Hazardous Materials, Solid Waste, and Pollution Prevention, Historical, Architectural, Archaeological, and Cultural Resources, Land Use, Natural Resources and Energy Supply, Noise and Noise Compatible Land Use, Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks, Visual Effects, Water Resources, and Cumulative Impacts.

A. Air Quality

As implementation of the Proposed Action would not change aircraft activity levels at the Airport, air emissions associated with the use of the widened runway and taxiways would not change between the No Action Alternative and the Proposed Action Alternative, and would not exceed any NAAQS. While not required to reduce impacts to a not significant level, implementation of standard construction practices recommended by the San Luis Obispo County Air Pollution Control District, which include fugitive dust controls and reducing engine idling when equipment is not in use, will further minimize the emissions of air pollutants during construction.

B. Biological Resources.

A Biological Assessment was prepared to support the initiation of a Section 7 consultation with the USFWS and is provided in Appendix E of the EA. The Proposed Action would increase the amount of impervious surface on the Airport approximately 0.75 acre, or about 6.6 percent. The Proposed Action would result in total impacts of up to approximately 9.93 acres, 9.18 acres of which would be temporary impacts. The majority of the project footprint consists of existing pavement (anthropogenic habitat) and/or regularly mowed and disturbed areas (annual grassland and ruderal habitat). A small amount (about 0.02 acres) of coastal brackish marsh would be permanently affected by the relocated segmented circle and wind cone. An additional 0.92 acre of coastal brackish marsh and arroyo willow riparian forest could be temporarily affected by construction activity such as vehicular traffic and materials staging.

Although the Proposed Action would not result in significant impacts to biological resources, San Luis Obispo County proposes to implement the avoidance and minimization measures described in Section 4.2.2.2 of the EA to further reduce potential impacts to Nesting Birds, American Badgers, and California red-legged frog.

C. Climate

Construction activities would temporarily increase GHG emissions compared to the No Action Alternative. The construction activity associated with the project elements would be of a relatively modest scale compared to other transportation and/or commercial development.

D. Coastal Resources

Implementation of the elements of the Proposed Action would continue to be consistent with the San Luis Obispo County Coastal Plan Policies, and the corresponding CZLUO, and would comply with CDP requirements. The San Luis Obispo CZLUO adopted by the County Board of Supervisors specifically identifies the Airport and "appurtenant areas used for airport buildings, aircraft operations and related facilities" as a permitted use. All of the elements of the Proposed Action are consistent with this definition. As the impacts of the Proposed Action are not significant for Coastal Resources, no mitigation measures are

required. However, implementation of the mitigation, minimization and avoidance measures identified throughout the EA will further mitigate impacts on coastal resources.

E. Department of Transportation Act Section 4(f)

The cultural resources survey found no historic buildings on archaeological sites on Airport property that are on or eligible for listing on the NRHP. The nearest historic structure to the Airport listed in the NRHP is the Arroyo Grande Independent Order of Odd Fellows Hall, approximately 2 ¾ miles northeast of the project site. The Proposed Action would not physically affect any Section 4(f) resource and would not substantially impair the use of any Section 4(f) resource. While not required to reduce impacts to a not significant level, construction BMPs including minimizing engine idling when equipment is not in use and control of fugitive dust would reduce noise and air emissions to nearby recreational facilities during construction.

F. Hazardous Materials, Solid Waste, and Pollution Prevention

Implementation of the Proposed Action is not expected to encounter hazardous materials. While no mitigation is necessary to reduce impacts to a not significant level, implementation of the construction BMPs will further avoid and minimize potential environmental impacts associated with hazardous materials and wastes, solid wastes, and pollution prevention.

G. Historical, Architectural, Archaeological, and Cultural Resources

The cultural resources survey concluded that the construction of the Proposed Action was unlikely to affect potentially significant archaeological resources. The nearest historic structure listed in the NRHP is the Arroyo Grande Independent Order of Odd Fellows Hall, approximately 2 ¾ miles northeast of the project site. No structures on the Airport are listed; thus, the demolition of the office/house that includes the electric vault would have no effect on historic resources. While implementation of the Proposed Action would not have a significant impact on historic resources on or eligible for the NRHP, if unanticipated historic resources are encountered during construction of the project, the Airport would follow 36 CFR § 800.13 Post-review discoveries, and coordinate with the FAA, the SHPO, any Indian tribe that might attach religious or cultural significance to such resources.

H. Land Use

As the Proposed Action would not result in impacts on land use, no mitigation measures are required, and no mitigation, avoidance or minimization measures were identified.

I. Natural Resources and Energy Supply

The proposed runway and taxiway lighting could slightly increase demand for electrical power. The installation of a new, more efficient electrical vault and possible use of solar power would reduce the amount. Implementation of the Proposed Action would have minimal effects on the Airport's consumption of natural resources and energy. While no mitigation is warranted to reduce impacts, use of reflectors and solar powered LED lighting would minimize energy consumption of the Proposed Action.

J. Noise and Noise-Compatible Land Use

The Proposed Action would not lead to an increase in aircraft activity and would not alter flight patterns at the Airport. The noise impacts of the Proposed Action compared to the No Action Alternative would be limited to minimal, temporary construction impacts. Implementation of the Proposed Action would have minimal noise impacts during construction and no mitigation is required to reduce noise from the project to a not significant level. While not required to reduce impacts to less than significant levels,

construction BMPs such as not conducting construction during nighttime hours and minimizing engine idling when equipment is not in use, would minimize noise levels associated with construction of the Proposed Action.

K. Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks

Socioeconomics. Construction activity would temporarily employ construction workers, who would generate additional economic activity in the local area. The modest scale of the construction effort would only employ up to 10 construction workers at any one time, although the types of workers would change over time as the project entered different phases of construction. This relatively small economic impact would not materially change growth and development patterns in the area surrounding the Airport and would not result in a significant environmental impact on socioeconomics.

Environmental Justice. Implementation of the Proposed Action would occur on Airport property, would have minimal off-Airport effects, and would not require the relocation of residents or businesses. In the absence of permanent off-Airport impacts, implementation of the Proposed Action would not disproportionately affect minority of low-income populations in the vicinity of the Airport, and not result in a significant impact on minority or low-income populations.

Children's Environmental Health and Safety Risks. Implementation of the Proposed Action would not significantly affect surrounding communities and would not increase exposure of environmental contaminants to children in the surrounding community. Therefore, implementation of the Proposed Action would not result in a significant environmental impact or environmental health and safety risk to children.

L. Visual Effects

The Proposed Action would include replacement of the runway lighting and replacement and additional taxiway lighting and the expansion of paved area associated with the runway and taxiways. The limited additional light emissions from the airport related to the replacement of runway lighting and the replacement and installation of new taxiway lighting would not result in a significant impact on the environment.

M. Water Resources

Wetlands**.** The Proposed Action would permanently remove up to 0.02 acres of Emergent Palustrine wetlands. This wetland impact cannot be avoided because of the placement of the segmented circle and wind cone. This permanent loss of up to 0.02 acres of wetlands is not of sufficient magnitude to produce an environmental impact that would exceed the threshold of significance. While implementation of the Proposed Action would not result in significant impacts to wetlands, the County will be required to obtain an authorization in accordance with Section 404 of the CWA, and a CDP under the California Coastal Act.

The Army Corps of Engineers and the California Coastal Commission are likely to require wetland mitigation to offset the impacts of the proposed project. The California Coastal Commission typically requires a 3:1 mitigation ratio for permanent wetland impacts, and a 1:1 mitigation ratio for temporary wetland impacts. If mitigation is required, a wetland mitigation plan will be prepared.

Floodplains. The Proposed Action would permanently increase the impervious surface of the Airport by approximately 0.75 acres. This floodplain impact cannot be avoided because

the entire Airport is within the 100-year floodplain. Thus, the runway and taxiway cannot be widened without converting a portion of the 100-year floodplain to an impervious surface. However, the permanent increase in impervious surfaces is not of sufficient magnitude to produce an environmental impact that would significantly diminish natural and beneficial floodplain values present at the Airport including moderation of floods, water quality maintenance, and fish, wildlife, and plant habitat found on the Airport.

Surface Waters. The Proposed Action would increase the amount of impervious surface and associated stormwater runoff by about 0.75 acres of airport property. The Proposed Action would also include the installation of a pollution control facility, or aircraft wash rack, that would reduce the discharge of oils and detergents associated with aircraft washing into receiving waters, notably the Oceano Lagoon. The County will obtain a NPDES Construction General Permit which will require a Stormwater Pollution Prevention Plan that would limit the potential for contamination of surrounding surface waters. The Airport would continue to meet the water quality standards consistent with the terms of its current NPDES permit and will therefore have very limited potential to adversely affect water oriented biological resources. Potential best management practices could be incorporated into final design to address the increase in runoff volume and any changes in water quality.

The County will also obtain a Class II Industrial User Permit for discharge of non-domestic wastewater to the South San Luis Obispo County Sanitation District wastewater collection system. This permit will require the County to specify the estimated annual volume of effluent to be discharged to the collection system and the types of effluent to be discharged. The permit will require the County to conduct random self-monitoring three times a year and to consolidate the monitoring reports in an annual report to the South San Luis Obispo Sanitation District and the Environmental Compliance Inspector.

Groundwater. As the San Luis Obispo Valley Basin groundwater basin is located approximately 6 ½ miles north of the Airport, and at a higher elevation than the Airport, there is no potential for water infiltrating into the ground from the Airport to affect that groundwater basin. While not required to reduce groundwater impacts to not significant levels, compliance with the Airports NPDES permit and NPDES Construction General Permit would lessen the potential for contamination of groundwater resources.

N. Cumulative Impacts

In order to contribute to cumulative impacts, implementation of the seven project elements must affect an environmental resource when compared to the No Action Alternative. Table 4-3 of the EA shows the potential for the Proposed Action to contribute to cumulative impacts with respect to specific resources. As noted in the previous sections, the elements incorporated in the Proposed Action would have little or no impact to any resource. The relatively minor impacts of the Proposed Action would not contribute to a significant cumulative impact when considered in combination with the impacts of other past, present, or reasonably foreseeable future actions.

6. Public Participation.

The public was encouraged to review and comment on the Draft EA that was released for public review on April 26, 2021. San Luis Obispo County published a notice of availability of the Draft EA in the following local newspapers in the vicinity of the airport: *San Luis Obispo Tribune.* San Luis Obispo County made the Draft EA available on their web site and at the Department of Airports administrative offices. The public comment period ended on May 27,

2021. One written comment was received. No new issues were raised as a result of these comments. Copies of the comments received and responses to those comments along with the newspaper Affidavits of Publication are included in the Final EA.

7. Inter-Agency Coordination.

In accordance with 49 USC § 47101(h), the FAA has determined that no further coordination with the U.S. Department of Interior or the U.S. Environmental Protection Agency is necessary because the Proposed Action Alternative does not involve construction of a new airport, new runway or major runway extension that has a significant impact on natural resources including fish and wildlife; natural, scenic, and recreational assets; water and air quality; or another factor affecting the environment.

8. Reasons for the Determination that the Proposed Action Alternative will have No Significant Impacts.

The attached Final EA examines each of the various environmental resources that were deemed present at the project location, or had the potential to be impacted by the Proposed Action Alternative. The proposed airfield pavement and facilities improvements would not involve any environmental impacts, which would exceed a threshold of significance as defined by FAA Orders 1050.1F and 5050.4B. Based on the information contained in the Final EA, the FAA has determined the Proposed Action preferred alternative, is most feasible and prudent alternative. FAA has decided to implement the proposed project as described in the attached Final EA.

9. Finding off No Significant Impact

I have carefully and thoroughly considered the facts contained in the attached EA. Based on that information, I find that the proposed Federal action is consistent with existing national environmental policies and objectives as set forth in Section 101(a) of the National Environmental Policy Act of 1969 (NEPA) and other applicable requirements. I also find the proposed Federal Action, with the required mitigation referenced above will not significantly affect the quality of the human environment or otherwise include any condition requiring consultation pursuant to section 102 (2)(C) of NEPA. As a result, FAA will not prepare an EIS for this action.

APPROVED:

Laurie J. Suttmeier June 17, 2021

Laurie Suttmeier — Date
Manager, San Francisco Airports District Office

DISAPPROVED:

Laurie Suttmeier — Date
Manager, San Francisco Airports District Office

TABLE OF CONTENTS

Table of Contents

Table of Contents

List of Figures

List of Tables

Appendices

Table of Contents

ACRONYMS

AC – Advisory Circular

ACIP- Airport Capital Improvement Program

ADG- Airplane Design Group

ALP – Airport Layout Plan

ALUC – Airport Land Use Commission

ALUP- Airport Land Use Plan

APCD – Air Pollution Control District

APE – Area of Potential Effect

ARC – Airport Reference Code

AWOS – Automated Weather Observation System

BA – Biological Assessment

BMPs – Best Management Practices

CAA – Clean Air Act

CAAQS – California Ambient Air Quality Standards

CDFW – California Department of Fish and Wildlife

CDP – Coastal Development Permit

CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act

CEQ – Council on Environmental Quality

CFR – Code of Federal Regulations

CWA – Clean Water Act

CZLUO – Coastal Zone Land Use Ordinance

dB – Decibel

DNL – Day-Night Average Sound Level

EA – Environmental Assessment

EO – Executive Order

ESA – Endangered Species Act

FAA – Federal Aviation Administration

FAR – Federal Aviation Regulations

FEMA – Federal Emergency Management Agency

FR – Federal Register

GHG – Greenhouse Gas

ICAO – International Civil Aviation Organization

MIRL – Medium Intensity Runway Lighting

MSL – Mean Sea Level

NAAQS – National Ambient Air Quality Standards

NEPA – National Environmental Policy Act

NHPA – National Historic Preservation Act

NOA – Notice of Availability

NPDES – National Pollutant Discharge Elimination System

NRHP – National Register of Historic Places

P.L. – Public Law

RPZ – Runway Protection Zone

SHPO – State Historic Preservation Officer

TAF – Terminal Area Forecast

TDG – Taxiway Design Group

USC – United States Code

USDOT – U.S. Department of Transportation

USEPA – U.S. Environmental Protection Agency

USFWS – U.S. Fish and Wildlife Service

CHAPTER 1. PURPOSE AND NEED

This Environmental Assessment (EA) evaluates the potential environmental effects associated with the Airfield Pavement and Facilities Improvements at Oceano County Airport (the Airport) in accordance with FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*.

1.1 BACKGROUND

San Luis Obispo County (the Airport Sponsor or Sponsor) owns and operates the Oceano County Airport (Airport). As described in more detail in this chapter, the Airport serves primarily general aviation, piston-engine aircraft with wingspans of less than 49 feet. The Airport is located 17 miles south of the City of San Luis Obispo in the unincorporated Oceano Urban Area of San Luis Obispo County. **Figure 1-1** shows the location of the Airport in the region.

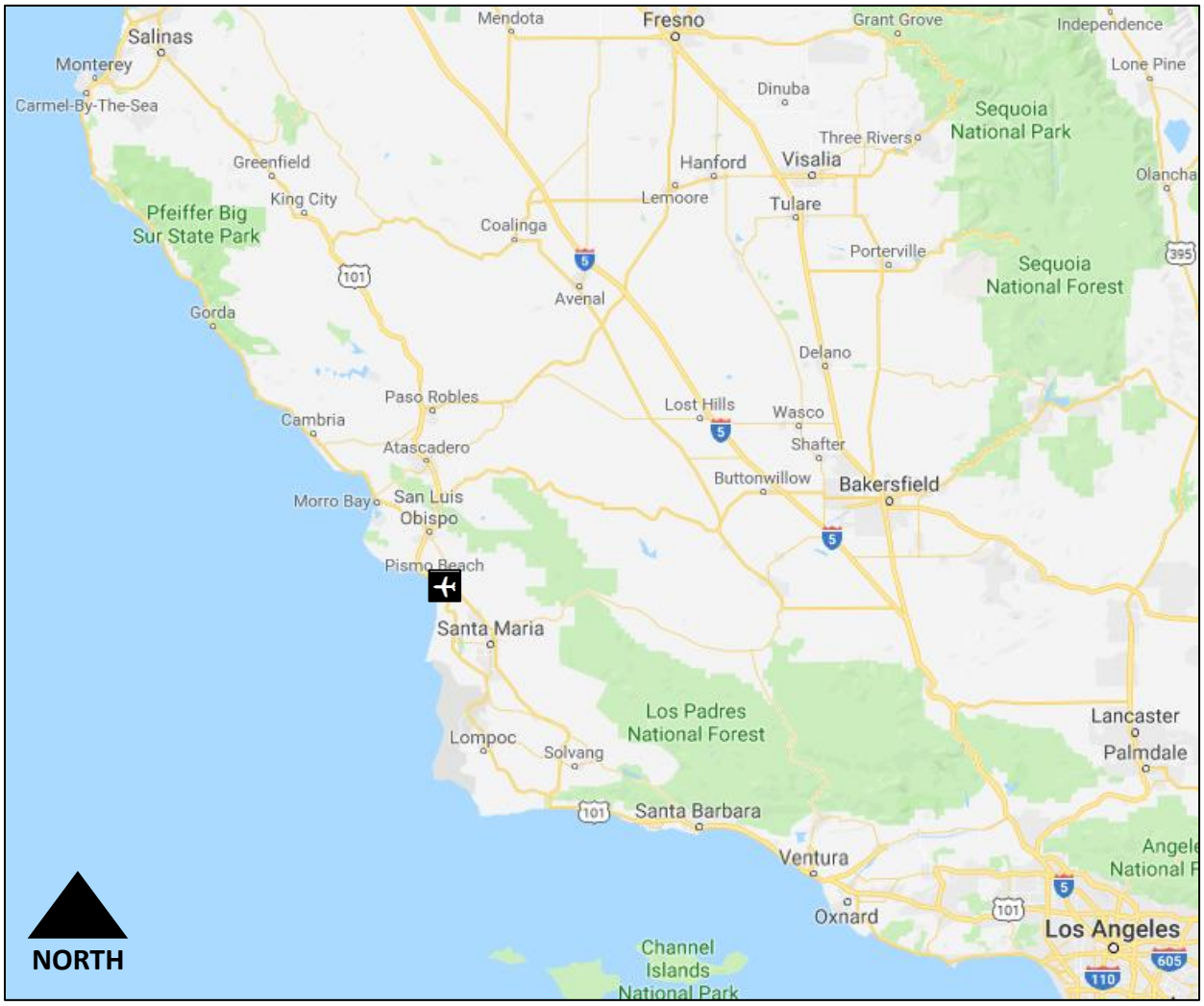
The Airport is sited about 2,000 feet east of the Pacific Ocean shoreline, 200 feet north of Arroyo Grande Creek, and 500 feet north of the Pismo Dunes Natural Preserve. The Oceano County Airport is located south of the city of Pismo Beach and west of Arroyo Grande, in Oceano, California. Surrounding land use includes Oceano Lagoon, residential and commercial uses, and Pismo State Beach on the north; the Union Pacific Railroad and residential development on the east; Pismo Dunes Natural Preserve on the south; and a small residential development bordering the Pacific Ocean on the west (see **Figure 1-2**).

1.1.1 Existing Facilities

The Airport has a single runway, as shown in **Figure 1-3**. Runway 11-29 is an asphalt runway 2,325 feet in length and 50 feet in width. The Runway is equipped with Medium Intensity Runway Lighting (MIRL). Taxiways A, A-1, A-2, A-3, and A-4 accommodate aircraft circulation between the runway and the apron providing access and circulation for aircraft parking positions and hangars. Taxi lane B parallels the runway on the northeast along the edge of this apron, and Taxiway A parallels the full length of the runway on the southwest. All taxiways are 20 feet wide. Connector Taxiways A-1, A-2, A-3, and A-4 are lighted. Taxiway A is equipped with Taxiway Edge Reflectors.

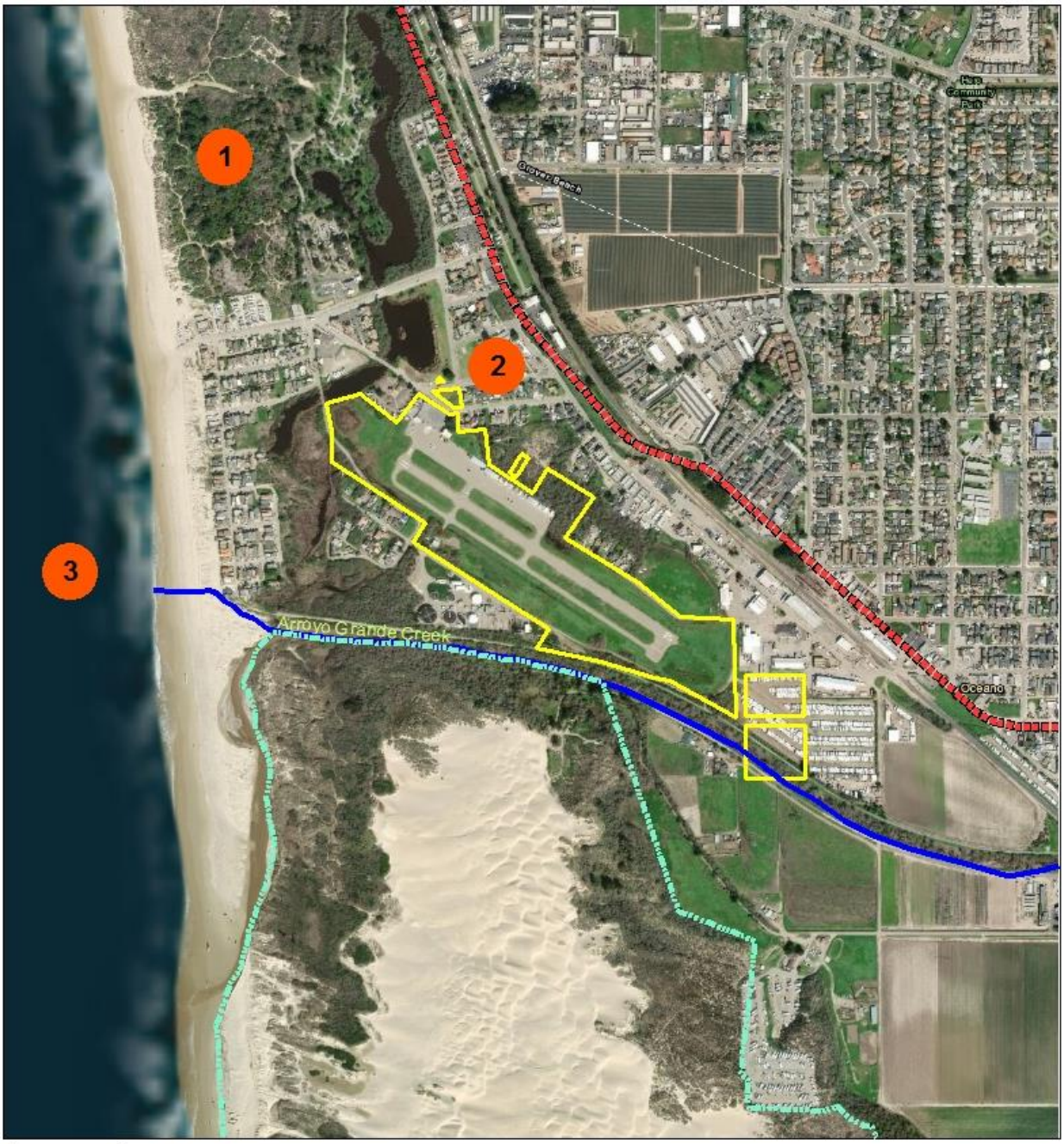
Other airside facilities include a segmented circle, wind cone, rotating beacon, Automated Weather Observation System (AWOS), and a general aviation hangar area containing aircraft tie-down parking positions and executive and storage hangars. Landside facilities include an Airport office, electrical vault, fuel tank, vehicle parking area, and campground for airport users.

Figure 1-1
AIRPORT LOCATION



Source: Google Earth, 2019; RS&H, 2019.

Figure 1-2
AIRPORT VICINITY



Source: ESRI, 2019; RS&H, 2019.

1.1.2 Airport Design Standards, Critical Design Aircraft, and Aviation Activity Forecast

This following review provides background underlying the rationale for the proposed Airfield Pavement and Facilities Improvements at Oceano County Airport. These improvements are consistent with the FAA's airport design objectives of preserving the safety, utility, and efficiency of the Airport[1]. Aircraft operating at airports not designed to the corresponding standards may operate less efficiently due to reduced takeoff weights resulting from limited runway length, inefficient ground operations due to inadequate taxiway dimensions, or delays for aircraft separation if runways and taxiways are not separated by enough distance to allow concurrent operations.

1.1.2.1 Airport Design Standards

The Federal Aviation Administration (FAA) establishes airport design standards in FAA Advisory Circular (AC) 150/5300-13A, *Airport Design*, to ensure that "… aircraft in a particular category can operate at the airport without restrictions or location-specific encumbrances that could impact safe and efficient operations[2]." Airport design standards for runways and taxiways are scaled to the most demanding aircraft (critical aircraft) that regularly uses a given airport or may realistically use it in the future. Aircraft types are classified by approach (i.e., landing), speed, and size.

Aircraft Approach Category and Airplane Design Group. Approach speed is an important design consideration because aircraft with faster approach speeds that land at higher speeds require longer and wider runways, and greater separation between runways and taxiways. **Table 1-1** shows the Aircraft Approach Category and Airplane Design Group (ADG) of aircraft routinely operating at the Airport.

Aircraft size parameters include the ADG and Taxiway Design Group (TDG). ADG and TDG affects taxiway and apron design, aircraft parking layout, and separation standards between runways and taxiways. Aircraft routinely operating at the Airport are classified as ADG – I.

Airport Reference Code. For airfield planning purposes, aircraft are classified by both approach speed and design group in an Airport Reference Code (ARC). For example, the ARC for an aircraft with an approach speed of less than 91 knots, a wingspan of less than 49 feet, and a tail height of less than 20 feet would be A-I.

[1] FAA AC 150/5300-13A, Change 1. Paragraph 102.h, Airport Layout Plan.

[2] Ibid. Paragraph 105.a, Applicability of airport design standards.

Figure 1-3
EXISTING AND PROPOSED AIRPORT FACILITIES

Legend

1. Widen Runway from 50' to 60'
2. Widen Taxiways from 20' to 25'
3. Relocate Segmented Circle and Wind Cone
4. Install Hold Position Signage ✱
5. Install New Electrical Vault and Connections
6. Install Pollution Control Facility (Aircraft Wash Rack)

Oceano County Airport Property Line

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

NORTH

Source: ESRI, 2019; RS&H, 2019.

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Table 1-1
AIRPORT REFERENCE CODES FOR AIRCRAFT TYPICALLY OPERATING AT OCEANO COUNTY AIRPORT

Airport Reference Code	Aircraft Characteristics	Example Aircraft Type
A-I	**Approach Speed** – Less than 91 knots **Wingspan** – Less than 49 feet	Cessna 172 
B-II	**Approach Speed** – 91 knots or greater, but less than 121 knots **Wingspan** – 49 feet or greater, but less than 79 feet	Beechcraft Super King Air 200 (i.e., family grouping of critical aircraft) 

∗ Knot = 1 nautical mile (1.15 statute miles) per hour
∗ Source: FAA AC 150/5300-13A, Change 1, Table 1

1.1.2.2 Critical Design Aircraft

FAA AC 150/5300-13A, Airport Design, states that the characteristics of the critical design aircraft determine the application of airport design standards for runways, taxiways and taxilanes, aprons, and other facilities. The critical design aircraft is defined as the most demanding aircraft that conducts at least 500 annual operations (one takeoff or one landing is an operation) at the Airport or is forecasted to do so in the future. The critical design aircraft is often a composite aircraft representing a collection of aircraft classified by the parameters discussed in the previous section.

The current critical design aircraft at the Airport is ARC A-I (small) composite of aircraft such as the Beech Bonanza 36, Beech Travel Air 95, Cessna 150, Cessna 170, Cessna 172, Piper Aeronca, Piper Archer, Piper Cherokee 28, Piper J-3 Cub, and Aviat Eagle II. Aircraft with more demanding

ARC characteristics may also use the Airport on occasion, but not on a regular basis. The ARC for the Airport is therefore A-I.

1.1.2.3 Aviation Activity Forecasts

The forecast for the Airport developed in the May 2015 Airport Layout Plan (ALP) Update Narrative Report (the Narrative Report) is based on the 2007 Master Plan forecast and the FAA Terminal Area Forecast (TAF) published in January 2015. **Appendix B** compares the ALP Update forecast to the January 2018 TAF. The forecasts of aviation activity indicate that the number of based aircraft and aircraft operations will remain relatively stable over the 20-year forecast period. The TAF forecasts-based aircraft to increase from 20 to 23 between 2015 and 2035, and aircraft activity to remain at 6,000 annual operations through the forecast period. Although the number of annual aircraft operations may temporarily decrease due to the COVID-19 public health emergency, this would not result in a change in the critical aircraft. Given the minimal change in forecast-based aircraft and aircraft operations, a substantial change in the mix of aircraft based and operating at the Airport is unlikely. The future critical design aircraft therefore continues to be ARC A-I.

1.2 DESCRIPTION OF THE PROPOSED ACTION

The Sponsor proposes to build seven airfield pavement and facility improvements described below; collectively the Proposed Action. **Figure 1-3** shows that these proposed improvements are concentrated along the length of Runway 11-29 and the parallel taxiways.

1. **Widen Runway 11-29 from 50 to 60 feet.** This improvement will enhance safety by meeting the FAA airport design standards for an ARC A-I airport. This component includes grading and paving the runway and grading the shoulders on either side of the runway to maintain required runway shoulder widths and drainage of stormwater flows to the existing drainage system. This project element also includes the replacement of existing runway edge lighting consisting of MIRL.
2. **Widen Taxiways A, A-1, A-2, A-3, and A-4 from 20 to 25 feet.** This improvement will also enhance safety by meeting the FAA airport design standard for an ARC A-I airport. The project includes grading and paving on either side of the taxiways, maintenance of required taxiway shoulder widths, and stormwater drainage consistent with FAA Airport Design standards. The project includes the replacement and installation of new taxiway edge lighting and the necessary extension of electrical power supply.
3. **Relocate segmented circle and wind cone.** Relocating the existing segmented circle and lighted wind cone will enhance safety by improving the visibility of the wind cone for pilots taking off to the northwest; the predominant direction of operations at the Airport. The current location is about 615 feet from the northwestern runway end, and 1,600 feet from the southeastern runway end. Moving the wind cone and associated segmented

circle about 360 feet to the southeast will place it closer to the center of the runway, enhancing visibility for pilots taking off to the northwest. The project also includes an extension of the vehicle service road to the facilities and the extension of electrical power from the new electrical vault.

4. **Install taxiway edge lighting.** The project is to install taxiway edge lighting along the widened taxiways.
5. **Install hold position signage.** The project consists of the installation of hold position signage at each of seven runway crossings in compliance with AC/150 5340.18f. This component will enhance safety by improving pilot situational awareness and reduce the possibility of runway incursions when the runway is in use.
6. **Install a new electrical vault and electrical connections.** The Airport's current electrical vault is obsolete and would not accommodate the additional electrical demand associated with the proposed runway and taxiway lights. The new electrical vault to be located near the rotating beacon, closer to the airfield lighting systems it would support, thus reducing the length of electrical lines to the rotating beacon as well as the new and relocated airfield lighting. The project also includes demolition of the existing electrical vault along with existing vehicle parking and the existing office / house that the electrical vault is located within near the Air Park Circle entrance in the northwest quadrant of the Airport. This structure is obsolete and no longer justifies the ongoing costs of maintenance.
7. **Install a pollution control facility (wash rack).** This stormwater best management practice would be installed on existing pavement as shown in **Figure 1-3** to manage the aircraft wash water runoff. The wash rack would require the extension of power and water supply as well as the installation of appropriate stormwater runoff containment infrastructure consisting of collection piping and an oil/water separator. First flush stormwater (up to 0.5-inches) and wash water would be directed to the oil/water separator and then conveyed to the South San Luis Obispo County Sanitation District wastewater treatment facility located on Honolulu Street immediately adjacent to the Airport. Stormwater not associated with aircraft washing would continue to discharge through existing stormwater conveyance infrastructure to the existing permitted outfall. The County will obtain a Class II Industrial User Permit to discharge aircraft washing effluent to the wastewater treatment facility. The Class II permit conditions will specify the amount and type of effluent to be discharged and other permit conditions. Required annual reports will typically include the following information.
    a. Quantities of discharge each month over the previous year,
    b. The results of self-monitoring conducted three times per year. Sampling results typically include biochemical oxygen demand, total suspended solids, and pH.

1.3 SPONSOR PURPOSE AND NEED

The Sponsor's purpose and need for the proposed project includes the following elements.

1. Enhancing safety at Oceano County Airport by modifying runways and taxiways to meet FAA Airport Design standards for the current critical aircraft at the airport.
2. Upgrading the airfield electrical distribution system to provide a more efficient source of electrical power to current and proposed airfield lighting and equipment.
3. Enhancing environmental quality in surrounding water bodies by Installing a pollution control facility (wash rack) to provide a location to wash aircraft where used wash water can be collected and treated to protect water quality consistent with current water quality regulations and permit conditions.

1.4 FAA PURPOSE AND NEED

The FAA's statutory mission is to ensure the safe and efficient use of navigable airspace in the U.S as set forth under 49 U.S. Code (USC) § 47101 (a)(1). FAA must ensure that the Proposed Action does not derogate the safety of aircraft and airport operations at Oceano County Airport.

Additionally, the purpose of the Proposed Action in connection with San Luis Obispo County's request to modify the existing ALP is to ensure the proposed improvements to the airport do not adversely affect the safety, utility, and efficiency of the airport. Pursuant to 49 USC § 47107 (a)(16), the FAA Administrator (under authority delegated from the Secretary of Transportation) must approve any revision to the ALP regarding the safety, utility, and efficiency of the airport before the revision or modification takes effect. The Administrator's approval reflects a determination that the proposed alterations to the airport, reflected in the ALP revision or modification, do not adversely affect the safety, utility, or efficiency of the airport.

1.5 REQUESTED FEDERAL ACTIONS

San Luis Obispo County, as the Airport Sponsor will request the following federal actions from the FAA needed to implement the Proposed Action.

1. Unconditional approval of changes to the ALP reflecting the improvements included in the Proposed Action.
2. Determinations associated with the eligibility of certain projects incorporated in the Proposed Action for federal AIP funding.

1.6 ANTICIPATED TIMEFRAME FOR IMPLEMENTATION

San Luis Obispo County has developed an Airport Capital Improvement Program (ACIP) for implementation of the projects incorporated in the Proposed Action. **Table 1-2** shows the estimated timeframe for project development reflected in the ACIP.

Table 1-2
ESTIMATED TIMEFRAME FOR PROJECT IMPLEMENTATION

Project	Design	Construction
1. Install a new electrical vault and electrical connections	2020	2020
2. Widen runway from 50 to 60 feet	2021	2022
3. Widen Taxiways A, A-1, A-2, A-3, and A-4 from 20 to 25 feet	2021	2022
4. Install taxiway edge lighting	2021	2022
5. Install hold position signage	2021	2022
6. Install a pollution control facility (wash rack)	2023	2023
7. Relocate segmented circle and wind cone	2024	2025

Source: Oceano County Airport ACIP Fiscal Years 2017 – 2023

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CHAPTER 2. ALTERNATIVES

This chapter describes identification and evaluation of potential alternatives to meet the Sponsor's purpose and need for the proposed project and includes the following elements.

1. Enhancing safety at Oceano County Airport by modifying runways and taxiways to meet FAA Airport Design standards for the current critical aircraft at the airport.
2. Upgrading the airfield electrical distribution system to provide a more efficient source of electrical power to current and proposed airfield lighting and equipment. As described in **Section 1.2**, the Airport's current electrical vault is obsolete, would not accommodate the additional electrical demand associated with the proposed improvements, and is distant from the airfield lighting systems it would support.
3. Enhancing environmental quality in surrounding water bodies by Installing a pollution control facility (wash rack) to provide a location to wash aircraft where used wash water can be collected and treated to protect water quality consistent with current water quality regulations and permit conditions.

2.1 CONSIDERATION OF POTENTIAL ALTERNATIVES

The alternatives analysis initially considered a broad range of possible on- and off-Airport alternatives to identify alternatives that would meet the Purpose and Need for the Proposed Action. The following alternatives were considered while identifying which alternative would be evaluated in detail in this EA.

No Action Alternative. As required by NEPA, the No Action Alternative is retained for detailed environmental impact evaluation in this EA. The No Action Alternative provides a basis of comparison for the assessment of future conditions/impacts. Under the No Action Alternative, the Airport would continue to operate with the existing facilities.

Proposed Action. The Proposed Action described in **Section 1.2** will meet the purpose and need described in **Section 1.3** to enhance safety by modifying runways and taxiways to meet FAA Airport Design standards, upgrade the airfield electrical distribution system, and enhance water quality by treating water from the proposed pollution control facility (wash rack).

Other Possible Alternatives. Some of the projects included in the Proposed Action are fixed by function, while others could be built in other locations on the Airport. None of the projects could meet their intended purpose if developed outside of the Airport. With these constraints in mind, the following on-site alternatives for implementing the Proposed Action were considered.

1. **Widen Runway 11-29 from 50 to 60 feet.** This improvement must be constructed along the length of the runway, which limits the range of possible alternatives. The possible

alternatives to widening the runway described below would not be reasonable alternatives to the Proposed Action.

a. Widening the runway on one side or the other of the centerline rather than equally widening on both sides of the runway centerline. The centerline of the runway forms a slight ridge to shed water to the edges. Widening one side would result in an uneven surface for aircraft. Therefore, widening the runway an equal amount (5 feet) on both sides of the centerline to maintain an even runway surface centered on the runway centerline is the preferable approach and widening the runway an unequal amount on either side of the centerline was eliminated from detailed consideration.

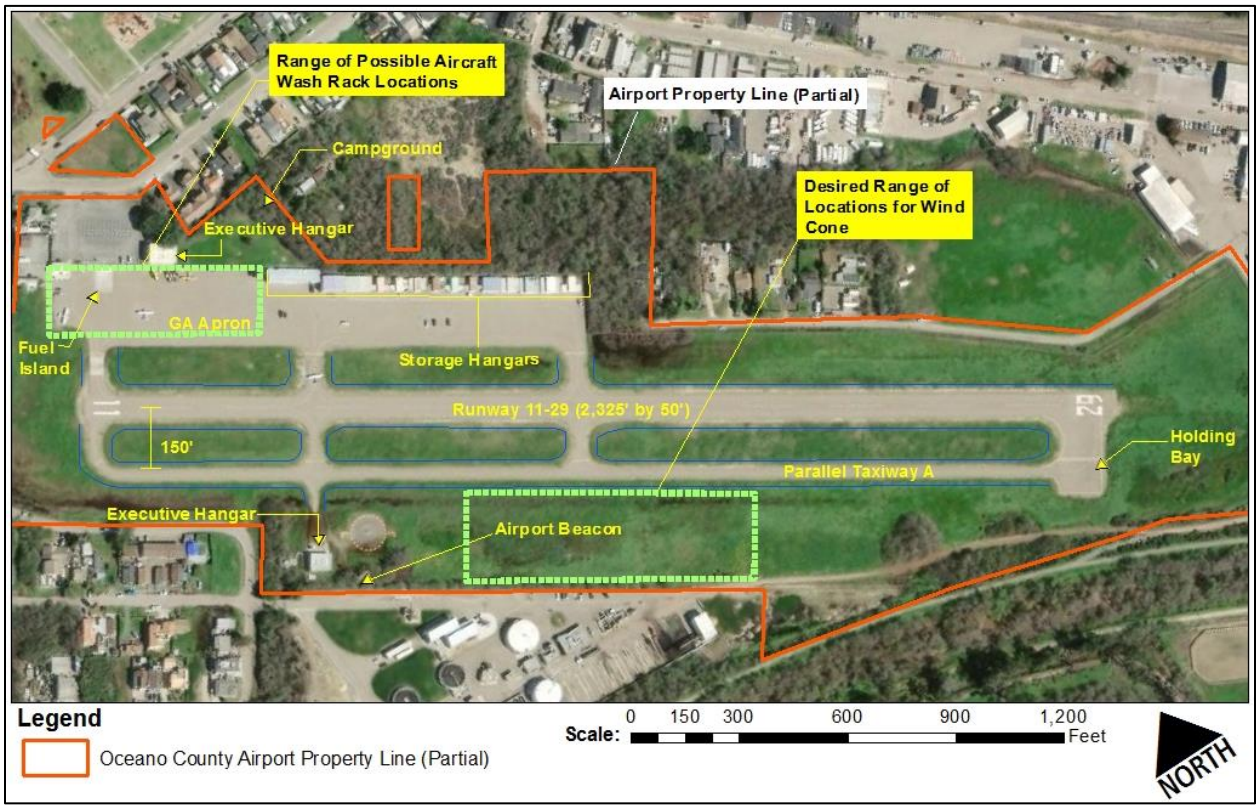
b. Partially widening the runway or widening only portions of the runway. This concept would not meet the need for this project because it would not meet FAA Airport Design standards. This alternative was eliminated from detailed consideration.

c. Relocate the runway. This alternative would require substantially more infrastructure development with associated costs and disturbance of undeveloped areas. The existing runway could not be relocated within the Airport boundaries while maintaining FAA airport design standards of a 150-foot runway centerline to parallel taxiway centerline for an ARC A-1 airport. In addition to the high cost of such an alternative, it could also require an acquisition of property to the south of the airport to provide sufficient area to meet FAA ARC A-1 runway-to-parallel taxiway separation standards. This alternative was eliminated from detailed evaluation due to its high cost.

2. **Widen Taxiways A, A-1, A-2, A-3, and A-4 from 20 to 25 feet.** Possible alternatives to widen these connecting taxiways to less than 25 feet would not meet FAA airport design standards but would have environmental impacts essentially the same as widening the taxiways to 25 feet. Therefore, alternatives of widening the connecting taxiways to less than 25 feet were not evaluated in detail.

3. **Relocate segmented circle and wind cone.** This improvement could be constructed at other locations on the Airport, subject to siting constraints including the need to remain outside of runway and taxiway safety areas while remaining visible to pilots on either end of Runway 11-29. **Figure 2-1** shows the middle portion of the runway in which the wind cone would be visible to aircraft at either end of the runway. The proposed wind cone and segmented circle location is in the eastern portion of this area, well away from wetlands in the western portion of the proposed area. Other locations within the appropriate area to relocate the segmented circle and wind cone which are not an equal distance from each end of the runway provide less utility to the airport. Therefore, such alternatives were eliminated from detailed evaluation.

Figure 2-1
AREAS AVAILABLE FOR SITING PROPOSED IMPROVEMENTS



Source: RS&H, January 2019

4. **Install taxiway edge lighting.** This improvement is fixed by function in that taxiway edge lights can only be located on the taxiway edge. No alternatives other than the No Action Alternative are possible.

5. **Install hold position signage.** This improvement is fixed by function. Position hold signage can only be installed at runway crossings. No alternatives other than the No Action Alternative are possible.

6. **Install a new electrical vault and electrical connections.** This improvement could be constructed at other locations on the Airport, subject to siting constraints including the need to remain outside of runway and taxiway safety areas while providing reasonable access to airfield facilities. However, other locations would require more extensive trenching for power cables to the airfield lighting system with similar environmental impacts and slightly higher costs. Therefore, alternative locations for this facility were eliminated from detailed evaluation.

7. **Install a pollution control facility (wash rack).** This improvement could be constructed at other locations on the Airport. **Figure 2-1** shows that the proposed location is adjacent to the Airport's aircraft hangars and parking positions. Other locations would require greater taxiing times for aircraft with similar environmental

impacts. Therefore, alternative locations for a pollution-control facility were eliminated from detailed consideration.

2.2 ALTERNATIVES RETAINED FOR FURTHER CONSIDERATION

FAA Order 1050.1F, paragraph 6-2.1.d states that "An EA may limit the range of alternatives to the proposed action and no action when there are no unresolved conflicts concerning alternative uses of available resources.[3]" The analyses documented in **Chapter 4** shows that the Proposed Action would not cause significant impacts to natural or human resources. In the absence of "unresolved conflicts concerning alternative uses of available resources," only the No Action Alternative and Proposed Action are retained for further consideration. **Section 2.1** above described the analysis leading to this conclusion. The Alternatives retained for detailed consideration are described in the next section.

2.2.1 No Action Alternative

Under the No Action Alternative, the Airport would not develop the projects identified in **Chapter 1**. The runway and taxiways at the Airport would remain as they are currently configured and not meet FAA Airport Design standards. No taxiway edge lighting or hold position signs at runway crossings would be installed to enhance safety by improving pilot situational awareness. In addition, the Airport would not upgrade the electrical vault and associated systems to enhance efficiency. The segmented circle and wind cone would remain in their current locations rather than being relocated to enhance pilot visibility.

Under this alternative, the Airport would also not install the pollution control facility (aircraft wash rack). Aircraft owners would continue to wash aircraft on the apron areas adjacent to their hangars. The resulting untreated effluent would continue to sheet flow across paved ramp areas into one of two outfalls, both of which lead to the Oceano Lagoon (see **Appendix A**).

2.2.2 Proposed Action

This section outlines the physical development and the operational characteristics of the Proposed Action.

2.2.2.1 Physical Development

Physical development associated with the Proposed Action described in **Chapter 1** includes the following projects.

1. Widen Runway 11-29 from 50 to 60 feet by widening the runway 5-feet on each side of the centerline and relocating the runway edge lighting.

[3] FAA Order 1050.1F refers to Question 23 in the CEQ Memorandum: Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, which defines unresolved conflicts in terms of conflicts of federal proposal with land use plans, policies or controls involving other federal, state, or local agencies. FAA Order 1050.1F Section 7.1-2.g states that a final EIS must reflect compliance with the requirements of all applicable special purpose laws and requirements.

2. Widen Taxiways A, A-1, A-2, A-3, and A-4 from 20 to 25 feet and install taxiway edge lighting.
3. Relocate segmented circle and wind cone
4. Install hold position signage
5. Install a new electrical vault and electrical connections
6. Install a pollution control facility (wash rack)

Development of these improvements would not result in "unresolved conflicts concerning alternative uses of available resource." Therefore, in accordance with FAA Order 1050.1F, paragraph 6-2.1 (d), no further "build" alternatives are retained for detailed consideration.

2.2.2.2 Operational Characteristics

As noted in **Chapter 1**, none of the proposed improvements would change the level of aviation activity or number of aircraft operations at the Airport. Therefore, the number and type of aircraft operations at the Airport would be the same under the Proposed Action and No Action Alternatives.

2.3 SUMMARY COMPARISON OF ALTERNATIVES

Table 2-1 is a summary comparison of the environmental impacts of the No Action and Proposed Action alternatives based on the detailed evaluation described in **Chapter 4**. As described in **Chapter 4**, implementation of the Proposed Action would not cause significant adverse impacts to any natural or human resource and, in contrast to the No Action Alternative, would meet the Purpose and Need for the Proposed Action.

2.4 FEDERAL LAWS AND REGULATIONS CONSIDERED

This section includes a list of federal statues, executive orders, regulations, FAA and U.S. DOT orders, and FAA Advisory Circulars (ACs) considered in the development of the alternatives evaluation and the preparation of this EA.

2.4.1 Federal Laws and Statutes

Federal laws and statutes include the following:

- The Clean Air Act (CAA) of 1977 (as amended) (42 USC §7409 et seq.);
- Clean Water Act (CWA) of 1972 (33 USC §1251 et seq.);
- Policy on lands, wildlife and waterfowl refuges, and historic sites (49 USC §303 [formerly known as Section 4(f) of the Department of Transportation Act of 1966]);
- Section 106, National Historic Preservation Act of 1966 (NHPA) (16 USC §470[f]; P.L. 89-665);
- The Endangered Species Act of 1973 (ESA) (P.L. 85-624; 16 USC §§661, 664 note, 1008 note);
- Section 404, Federal Water Pollution Control Act Amendments for 1972 (33 USC §1344; P.L. 92-500;), as amended by the CWA (33 USC §1251; P.L. 95-217).

2.4.2 Executive Orders

- Executive Order (EO) 11988, Floodplain Management (43 Federal Register [FR] 6030) and U.S. Department of Transportation (USDOT) Order 5650.2 – Floodplain Management and Protection (dated April 23, 1979);
- EO 11514, Protection and Enhancement of Environmental Quality (dated March 4, 1970); and
- EO 11296, Flood Hazard Evaluation Guidelines.

2.4.3 FAA / USDOT Orders

FAA and USDOT orders include:

- USDOT Order 5610.1C, Procedures for Considering Environmental Impacts (44 FR 56420, October 1, 1979) and Order DOT 5610.1C, Change 1 (July 13, 1982);
- USDOT Order 5660.1, Preservation of the Nation's Wetlands;
- FAA Order 1050.1F, Environmental Impacts: Policies and Procedures, (July 15, 2015); and
- FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions (April 28, 2006).

2.4.4 FAA Advisory Circulars

FAA ACs include:

- AC 150/5210-22, Airport Certification Manual;
- AC 150/5200-33B, Hazardous Wildlife Attractants On or Near Airports;
- AC 150/5320-5D, Airport Drainage Design;
- AC 150/5300-13A, Airport Design;
- AC 150/5320-6E, Airport Pavement Design and Evaluation; and
- AC 150/5370-10E, Standards for Specifying Construction of Airports.

2.5 REQUIRED PERMITS

Permits required for the implementation of the Proposed Action include the following:

- California State Water Resources Control Board: National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activities
- General Industrial Stormwater Permit from the Regional Water Quality Control Board
- Floodplain development permit pursuant to 9-1605.3
- Coastal Development Permit (CDP) from the California Coastal Commission
- Section 404/401 Permits

CHAPTER 3. AFFECTED ENVIRONMENT

Council on Environmental Quality (CEQ) Regulations[4] state that the "Human environment" shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment. This chapter describes the existing physical and natural environment that the Proposed Action and any reasonable alternatives may affect. The amount of information provided on a potentially affected resource is proportional to the extent of the potential impact.

The potentially affected environment includes the project footprint and its immediate surroundings (see **Figure 1-1**). All of the proposed improvements would be built within the existing airport boundaries shown in **Figure 1-2**. The areas surrounding the Airport could be affected by changes in amount of stormwater runoff that could affect aquatic habitats in streams or drainage channels connecting these areas to the local drainage system.

The following review of the environmental conditions in the Airport environs includes the resources listed in the FAA Order 1050.1F, Environmental Impacts: Policies and Procedures as follows.

1. Air Quality
2. Biological Resources
3. Climate
4. Coastal Resources
5. Department of Transportation Act, Section 4(f)
6. Hazardous Materials, Solid Waste, Pollution Prevention
7. Historical, Architectural, Archaeological, and Cultural Resources
8. Land Use
9. Natural Resources and Energy Supply
10. Noise and Noise-Compatible Land Uses
11. Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks
12. Visual Effects
13. Water Resources

Implementation of the Proposed Action would not affect farmlands, or wild and scenic rivers. The Proposed Action would occur entirely on Airport property. The property is classified as converted to urban land use as a result of Airport development prior to the Farmland Protection Policy Act of 1981 and is not classified as farmland. Finally, the closest Wild and Scenic River is the Kern River, which is about 135 miles northeast of the Airport. These resources are not

[4] CEQ Regulations (Section 1508.14)

discussed further in the affected environment, nor in the assessment of environmental consequences.

The following study areas cover the areas in which the effects of the Proposed Action and the No Action Alternative would occur. These study areas describe the general conditions in the vicinity of the airport. More detailed information on specific environmental resources is provided in the discussions of those environmental resources, when appropriate. **Figure 1-2** shows the location of the Airport in the regional context. **Figure 3-1** shows the area of potential ground disturbance, which could experience direct effects through construction of the projects incorporated in the Proposed Action. This area is entirely within the Airport boundaries and consists of contiguous areas within the surrounding roadway system. The following sections provide more detailed information on specific resources that might be affected by the Proposed Action.

3.1 AIR QUALITY

Air quality is the measure of the condition of the air expressed in terms of ambient pollutant concentrations that can harm human health, especially for children, the elderly, and people with compromised health conditions; as well as adversely affect public welfare by damage to crops, vegetation, buildings, and other property.

3.1.1 Applicable Laws and Regulations

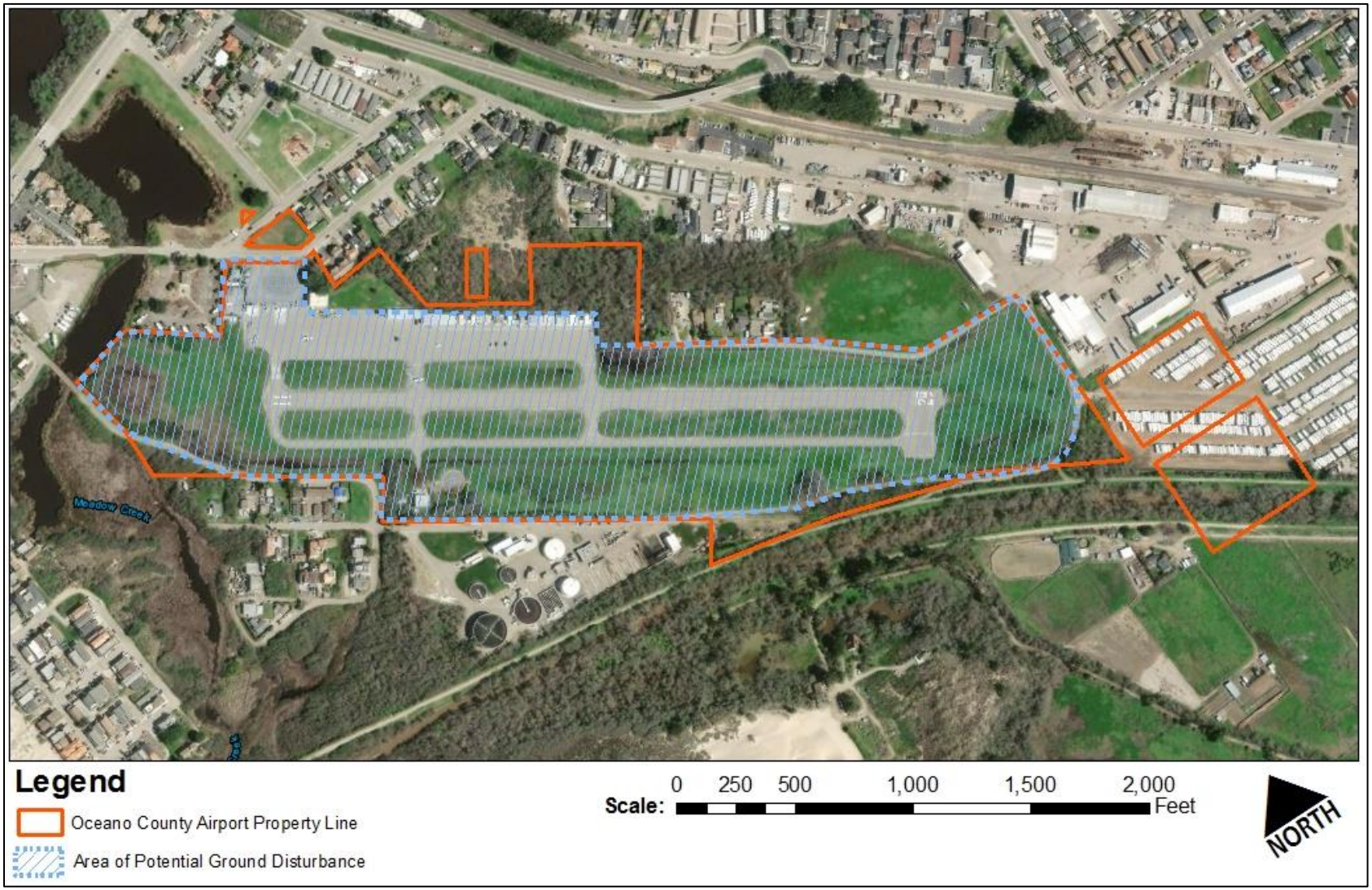
The applicable laws and regulations pertaining to air quality are provided in **Appendix H**.

3.1.2 Potentially Affected Environment

Geographic areas that meet all the National Ambient Air Quality Standards (NAAQS) are considered "in attainment" for the NAAQS. Geographic areas that exceed one or more NAAQS are designated as "nonattainment" areas, which can be marginal, moderate, serious, severe, and extreme depending on the degree to which they exceed the NAAQS. The Airport is in a portion of San Luis Obispo County that is in attainment with all NAAQS. As shown in **Figure 3-2**, the eastern portion of San Luis Obispo County is in Marginal Non-Attainment for 8-Hour O_3. San Luis Obispo County is in attainment for all other NAAQS criteria pollutants. CAAQS set air pollutant levels which may be present outdoors without harming public health. However, FAA significance criteria is related only to NAAQS standard exceedances. The potentially affected environment for the air quality analysis comprises the western part of San Luis Obispo County. As shown in **Figure 3-2**, the coastal portion of the County, including the Airport and surrounding areas meet all NAAQS.

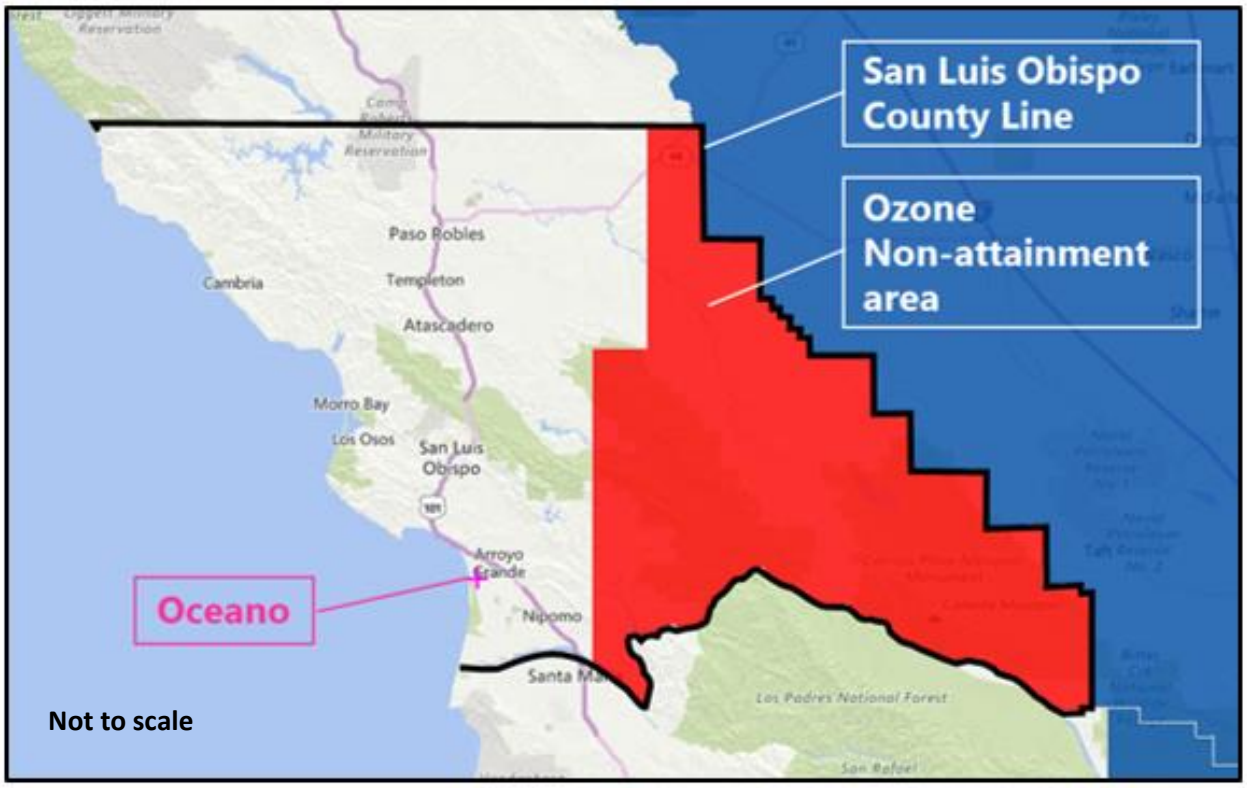
As shown in **Figure 1-2**, the Airport is located adjacent to the Pismo Dunes Natural Preserve. Although the Airport and its surroundings meet all NAAQS, this extensive dune system is subject to high winds that can result in blowing sand in downwind areas. Consistent with CAAQS, the

Figure 3-1
OCEANO COUNTY AIRPORT – AREA OF POTENTIAL GROUND DISTURBANCE



Source: ESRI, 2019; Oceano County Airport, Airport Layout Plan.

Figure 3-2
SAN LUIS OBISPO COUNTY OZONE NONATTAINMENT AREA

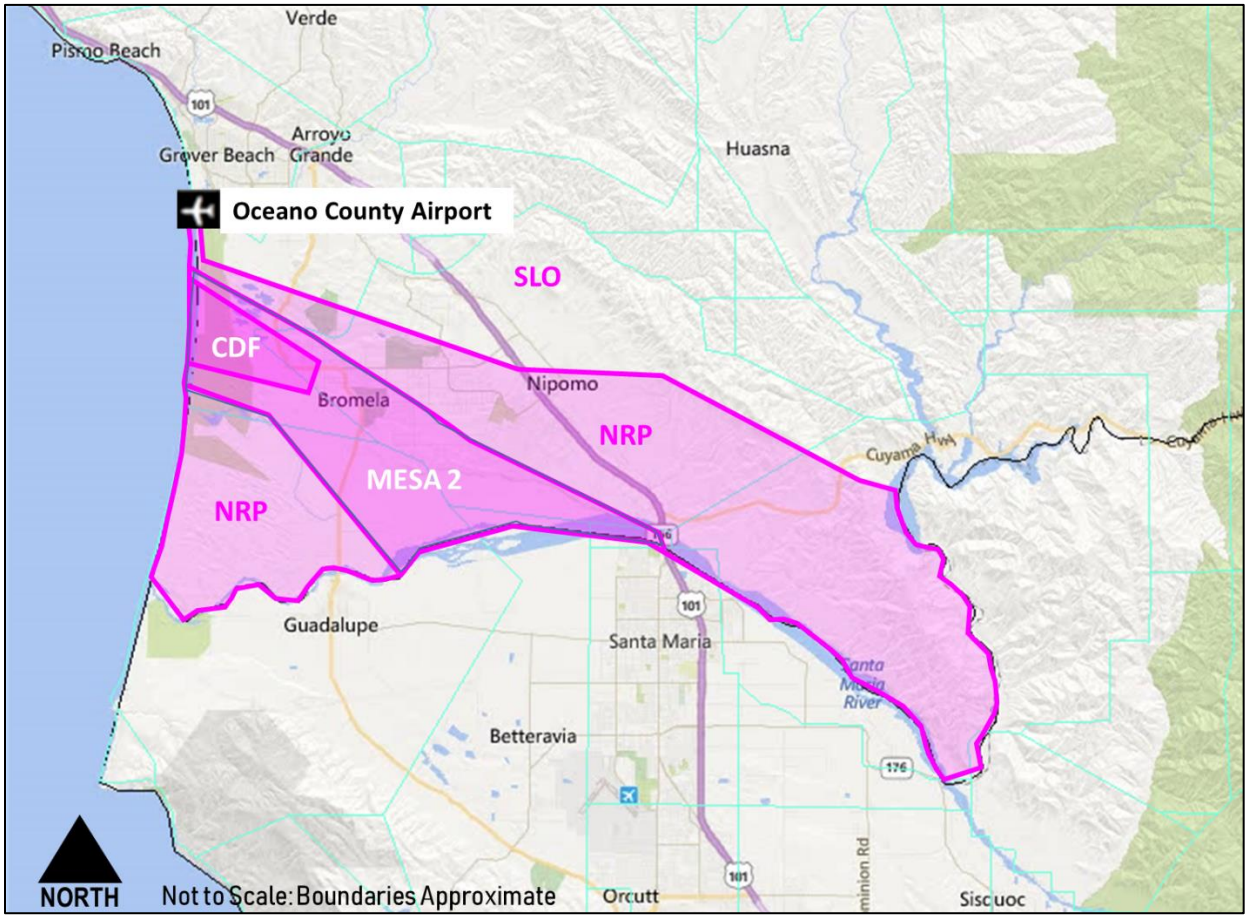


Source: NEPAssist, March 2019

San Luis Obispo County Air Pollution Control District (APCD) has identified four air quality forecast zones in the Oceano and the Nipomo Mesa area, as shown in **Figure 3-3**. The zones are named for the monitoring stations that are located within each zone; CDF, MESA2, NRP and SLO. Areas in the vicinity of the Oceano Airport experience periods of high particulate matter concentrations during blowing dust events. The darker colors shown in the figure represent the location and severity of dust plumes during typical blowing dust events.

Oceano Airport is partially in the NRP zone, which receives roughly 0-20 exceedances of the California PM_{10} standard each year, and partially in the SLO zone, which receives roughly 0-3 exceedances of the state PM_{10} standard each year. Blowing dust events are typically most frequent in the spring but can occur at any time of the year. The greatest impacts occur when the strong winds blow from the northwest which directs the dust plume inland where it can impact residents. A typical event tends to start around noon and end by the early evening, with peak impacts between 1 pm to 5 pm. **Appendix C** provides additional information regarding APCD air quality forecast zones.

Figure 3-3
SAN LUIS OBISPO COUNTY APCD DUST PLUME FORECAST ZONES



Source: NEPAssist; San Luis Obispo County APCD, January 2019

3.2 BIOLOGICAL RESOURCES

Biological resources are valued for their intrinsic, aesthetic, economic, and recreational qualities and include fish, wildlife, plants, and their respective habitats.

3.2.1 Applicable Laws and Regulations

The applicable laws and regulations pertaining to biological resources are provided in **Appendix H**.

3.2.2 Potentially Affected Environment

The affected environment for biological resources includes the project footprint and its immediate surroundings. All of the proposed improvements would be built within the existing airport boundaries shown in **Figure 3-1**. The areas surrounding the Airport that could be affected by changes in drainage patterns include aquatic habitats in streams or drainage

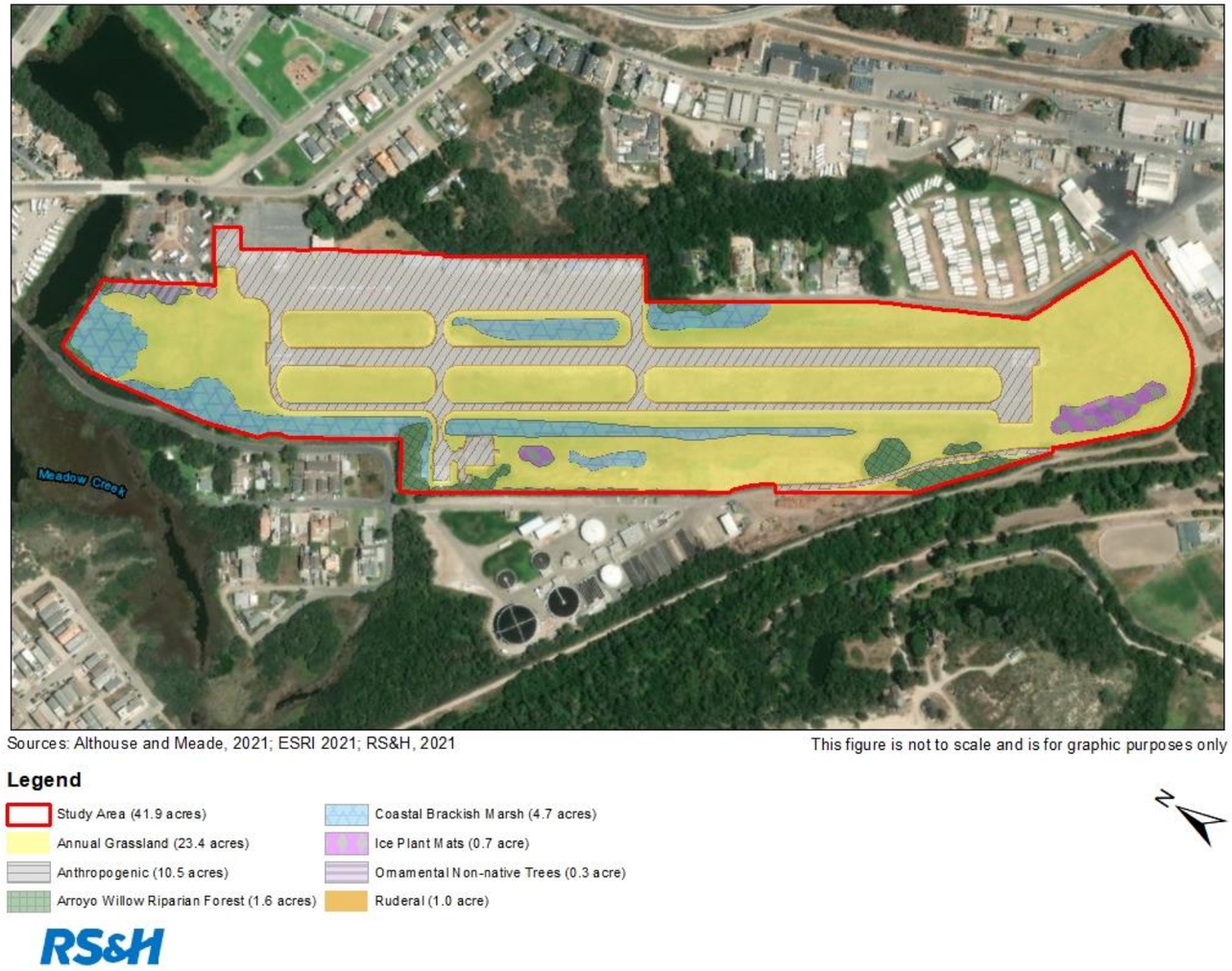
channels connecting these areas to the local drainage system. Habitat types identified and mapped on the Airport consist of annual grassland, coastal brackish marsh, arroyo willow riparian woodland, non-native ornamental plants (iceplant mats and ornamental non-native trees), and developed areas (anthropogenic areas such as pavement and buildings, and ruderal areas along runway shoulders that are mostly unvegetated) (see **Figure 3-4** and **Table 3-1**).

Appendix D contains detailed descriptions of habitats, including dominant vegetation species. Annual grassland, ruderal, and coastal brackish marsh habitats around the runways and taxiways are periodically mowed for maintenance purposes. In addition to these on-Airport habitats, the Airport drains to streams connected to marine waters associated with essential fish habitats that cover most of the Pacific coastline of the United States.

The majority of the project area shown in **Figure 3-4** consists of existing pavement and/or regularly mowed areas. The potential for federal and/or state special status species to be present on the Airport and/or in the area of potential ground disturbance for this project was evaluated in **Appendix D**, which found that the special status species described in **Table 3-2** have the potential to occur within the project area. **Appendix D** provides a comprehensive review of special status plant and animal species with potential to occur, including habitat requirements, range restrictions, and known occurrences.

None of the special status plant species with potential to occur on the Airport were detected in botanically-timed field surveys conducted in May and June of 2018. One special status animal species, the yellow warbler, was observed in field surveys. Only one federally listed species has potential to occur within the project, the California red-legged frog species occurs in Arroyo Grande Creek in the immediate vicinity of the Airport, but due to lack of suitable habitat in the project area, as well as the two roadways separating the Airport from Arroyo Grande Creek, California red-legged frogs are unlikely to be present on the Airport (see **Appendix D** and **Appendix E** for a comprehensive analysis of red-legged frog potential to occur).

Figure 3-4
BIOLOGICAL RESOURCES



Source: Althouse and Meade: May 2020

Table 3-1
OCEANO COUNTY AIRPORT HABITATS

HABITAT TYPES	ACRES	PERCENT
Annual grassland	23.42	55%
Coastal brackish marsh	4.67	11%
Arroyo willow riparian	1.56	4%
Ruderal (bare ground and weeds)	0.98	2%
Iceplant mats	0.67	2%
Non-native ornamental trees	0.27	1%
Anthropogenic (paved and developed areas)	10.51	25%
Totals	42.08	100%

Source: Althouse and Meade, May 2020

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Table 3-2
SPECIAL STATUS PLANT AND ANIMAL SPECIES

PLANT SPECIES COMMON NAME */SCIENTIFIC NAME*	FEDERAL STATUS	STATE STATUS	POTENTIAL TO OCCUR	DETECTED WITHIN PROJECT AREA?
San Luis Obispo Owl's clover / *Castilleja densiflora* var. *obispoensis*	**None**	**None *(S2)***	**Low**	**No**
La Graciosa Thistle / *Cirsium scariosum* var. *loncholepis*	**Endangered**	**Threatened *(S1)***	**Low**	**No**
Paniculate Tarplant / *Deinandra paniculata*	**None**	**None *(S4)***	**Low**	**No**
Gambel's Water Cress / *Nasturtium gambelii*	**Endangered**	**Threatened *(S1)***	**Low**	**No**
Black-Flowered Figwort / *Scrophularia atrata*	**None**	**None *(S2)***	**Low**	**No**
San Bernardino Aster / *Symphyotrichum defoliatum*	**None**	**None *(S2)***	**Low**	**No**
ANIMAL SPECIES COMMON NAME / *SCIENTIFIC NAME*	**FEDERAL STATUS**	**STATE STATUS**	**POTENTIAL TO OCCUR**	**DETECTED WITHIN PROJECT AREA?**
Burrowing Owl / *Athene cunicularia*	**None**	**None / *(SSC, S3)***	**Low**	**No**
Obscure Bumble Bee / *Bombus caliginosus*	**None**	**None / *(SA, S1S2)***	**Low**	**No**
Western Bumble Bee / *Bombus occidentalis*	**None**	**None / *(SA, S1)***	**Low**	**No**
White-tailed Kite / *Elanus leucurus*	**None**	**None / *(FP, S3S4)***	**Moderate**	**No**
California Black Rail / *Laterallus jamaicensis coturniculus*	**None**	**Threatened / *(FP, S1)***	**Low**	**No**
California red-legged frog / *Rana draytonii*	**Threatened**	**None / (SSC, S2S3)**	**Low**	**No**
Yellow Warbler / *Setophaga petechial brewsteri*	**None**	**None / *(SSC, S3S4)***	**High**	**Yes**
American Badger / *Taxidea taxus*	**None**	**None / *(SSC, S3)***	**Low**	**No**

Table 3-2
SPECIAL STATUS PLANT AND ANIMAL SPECIES

PLANT SPECIES COMMON NAME */SCIENTIFIC NAME*	FEDERAL STATUS	STATE STATUS	POTENTIAL TO OCCUR	DETECTED WITHIN PROJECT AREA?
Notes: State Conservation Status Ranks *(SSC)* CDFW Species of Special Concern *(SA)* Special Animal imperiled in state because of extreme rarity *(FP)* CDFW Fully Protected *(S1)* Critically imperiled in state because of extreme rarity *(S2)* Imperiled in state because of rarity *(S3)* Vulnerable; rare or uncommon in state *(S4)* Apparently secure in state-uncommon but not rare				

Source: Althouse and Meade, January 2019

3.3 CLIMATE

Research has shown a direct correlation between fuel combustion and Greenhouse gas (GHG) emissions that trap heat in the earth's atmosphere. The potentially affected environment for the climate analysis is the western part of San Luis Obispo County used in the air quality analysis as shown in **Figure 3-2.**

3.3.1 Applicable Laws and Regulations

The applicable laws and regulations pertaining to climate are provided in **Appendix H**.

3.3.2 Potentially Affected Environment

The U.S. Government Accountability Office reports that "domestic aviation contributes about three percent of total carbon dioxide emissions, according to USEPA data," compared with other industrial sources, including the remainder of the transportation sector (20 percent) and power generation (41 percent).[5] The International Civil Aviation Organization (ICAO) estimates that GHG emissions from aircraft account for roughly three percent of all anthropogenic GHG emissions globally. Aircraft, aircraft support equipment, and surface vehicles typically generate the most GHG emissions at an airport. An airport does not control these sources, which are operated by corporate entities and private individuals. The scientific community is continuing efforts to understand the impact of aviation emissions on the global atmosphere more fully. The FAA is leading and participating in a number of initiatives intended to clarify the role that commercial aviation plays in GHG emissions and climate. The FAA, with support from the U.S.

[5] FAA. (2015, June). Federal Aviation Administration, U.S. Aviation Greenhouse Gas Emissions Reduction Plan, Submitted to the International Civil Aviation Organization. Retrieved from: https://www.faa.gov/about/office_org/headquarters_offices/apl/environ_policy_guidance/policy/media/2015_US_Action_Plan_FINAL.pdf, November 2018.

Global Change Research Program and its participating federal agencies (the National Aeronautics and Space Administration, National Oceanic and Atmospheric Administration, USEPA, and U.S. Department of Energy) has developed the Aviation Climate Change Research Initiative to advance scientific understanding of regional and global climate impacts from aircraft emissions. The FAA also funds the Partnership for Air Transportation Noise & Emissions Reduction Center of Excellence research initiative to quantify the effects of aircraft exhaust and contrails on global and U.S. climate and atmospheric composition. The ICAO is examining similar research topics at the international level.[6]

3.4 COASTAL RESOURCES

Coastal resources include the natural resources occurring in coastal waters and their adjacent shorelands, including islands, transitional and intertidal areas, salt marshes, wetlands, floodplains, estuaries, beaches, dunes, barrier islands, coral reefs, as well as fish and wildlife and their respective habitats within these areas.

3.4.1 Applicable Laws and Regulations

The applicable laws and regulations pertaining to coastal resources are provided in **Appendix H**.

3.4.2 Potentially Affected Environment

As shown in **Figure 3-5**, the Airport is located in the State of California Coastal Zone. San Luis Obispo County has Local Coastal Plan Policies, which were certified by the California Coastal Commission (the Coastal Commission) and adopted by the San Luis Obispo County Board of Supervisors.[7]

The corresponding Coastal Zone Land Use Ordinance (CZLUO), also adopted by the County Board of Supervisors list the Airport as a permissible use, which includes "appurtenant areas used for airport buildings, aircraft operations and related facilities." [8]

- The Airport is located in the San Luis Bay Coastal planning area and is classified as a "Public Facility" under the CZLUO. Section 23.08.286 of the CZLUO states that no land use or grading permit is required for installation, testing, placement in service or replacement of any necessary utility connection.

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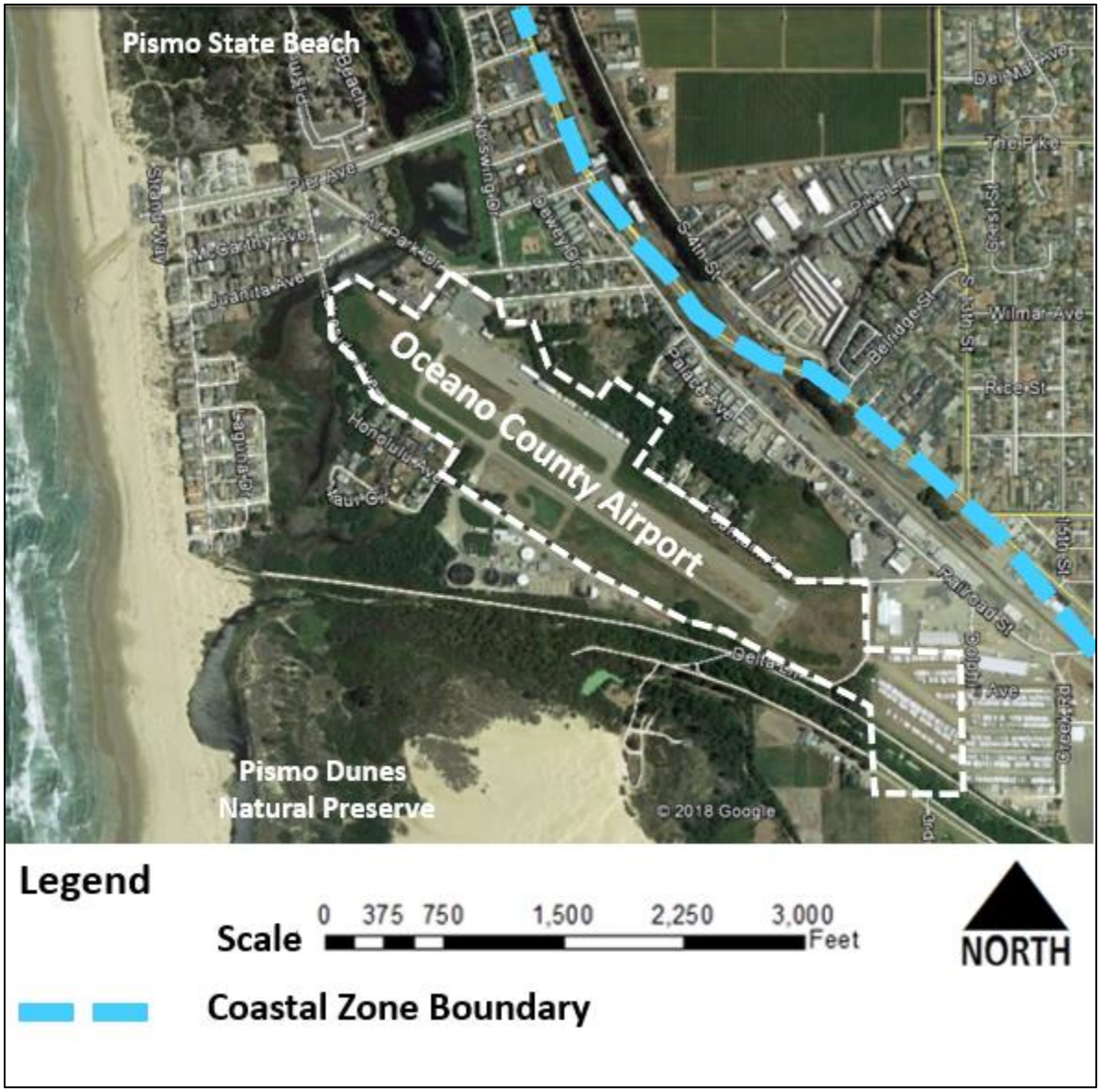
[6] Maurice, L. Q., & Lee, D. S. (2007). Aviation Impacts on Climate. In Interactional Civil Aviation Organization, *Final Report of the* Interactional Civil Aviation Organization Committee on Aviation and Environmental Protection Workshop (pp. 25-32). Washington, DC and Manchester: U.S. Federal Aviation Administration and Manchester Metropolitan University. Retrieved March 2018.

[7] San Luis Bay Area Plan certified by the California Coastal Commission February 1988 and adopted by San Luis Obispo County, March 1988.

[8] Framework for Planning Coastal Zone; first adopted by the San Luis Obispo County Board of Supervisors March 1, 1988; Program Certified by the California Coastal Commission February 25, 1988; Revised November 2011

Figure 3-5
COASTAL ZONE BOUNDARY



Source: Google Earth, 2019; RS&H, 2019.

- The Airport is subject to the California Coastal Act of 1976. The Airport is not located within a designated environmentally sensitive habitat. Development on the Airport will require a CDP issued by the Coastal Commission.
- The Airport is located within the designated Area Oa (Open Space Areas Exposed to Severe/Significant Airport Impact) airport planning area as identified in the Airport Land Use Plan (ALUP) for the Oceano Airport; therefore, ALUP Policies regarding airspace protection are applicable, and no structure, glare, apparatus, or other feature shall be installed or constructed that constitutes an obstruction to air navigation or hazard to air navigation.

3.5 DEPARTMENT OF TRANSPORTATION ACT, SECTION 4(F) AND LAND AND WATER CONSERVATION FUND ACT SECTION 6(F) RESOURCES

Department of Transportation Act, Section 4(f) provides protection for special properties, including publicly owned parks, recreation areas, wildlife and waterfowl refuges, or any historic and archaeological sites.

3.5.1 Applicable Laws and Regulations

The applicable laws and regulations pertaining to Department of Transportation Act, Section 4(f) and Land and Water Conservation Fund Act Section 6(f) resources are provided in **Appendix H**.

3.5.2 Potentially Affected Environment

Figure 3-5 shows the nearby Section 4(f) resources. The nearest Section 4(f) properties are Pismo State Beach and an associated campground, the Pismo Dune Natural Preserve, the Oceano Memorial (Recreational Vehicle) Campground, and Oceano Park (a municipal park and playground). The closest wilderness area to the Airport is Los Padres National Forest located approximately 10 miles northeast of the project site. None of these resources are within the areas that could be affected by ground disturbing activities identified in **Figure 3-1**. **Section 3.7** provides a more detailed description of the historic and cultural resources subject to Section 4(f).

3.6 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

Hazardous materials, solid waste, and pollution prevention as an impact category includes waste streams that would be generated by a project, hazardous materials that could be used during construction and operation of a project, the potential to encounter existing hazardous materials, and the potential to interfere with any ongoing remediation of existing contaminated sites.

3.6.1 Applicable Laws and Regulations

The applicable laws and regulations pertaining to hazardous materials, solid waste, and pollution prevention are provided in **Appendix H**.

3.6.2 Potentially Affected Environment

The potentially affected environment includes the project footprint and its immediate surroundings (see **Figure 1-1**). The closest site to the Airport listed in the USEPA Resource Conservation and Recovery Act database is about 500 feet to the east of the southeastern border of the Airport and is separated from the Airport by roads and existing development[9].

[9] USEPA NEPAssist website.

3.7 HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Historical, architectural, archeological, and cultural resources include past and present expressions of human culture and history in the physical environment, such as prehistoric and historic archaeological sites, structures, objects, districts, which are considered important to a culture or community. Resources may also include natural features and biota, that are a part of traditional ways of life and practices and are associated with community values and institutions.

3.7.1 Applicable Laws and Regulations

The applicable laws and regulations pertaining to historical, architectural, archaeological, and cultural resources are provided in **Appendix H**.

3.7.2 Potentially Affected Environment

Under the NHPA, the Area of Potential Effect (APE) is used to define the potentially affected environment. The following sections describe the APE for each type of resource subject to the NHPA.

3.7.2.1 Historic and Architectural Resources

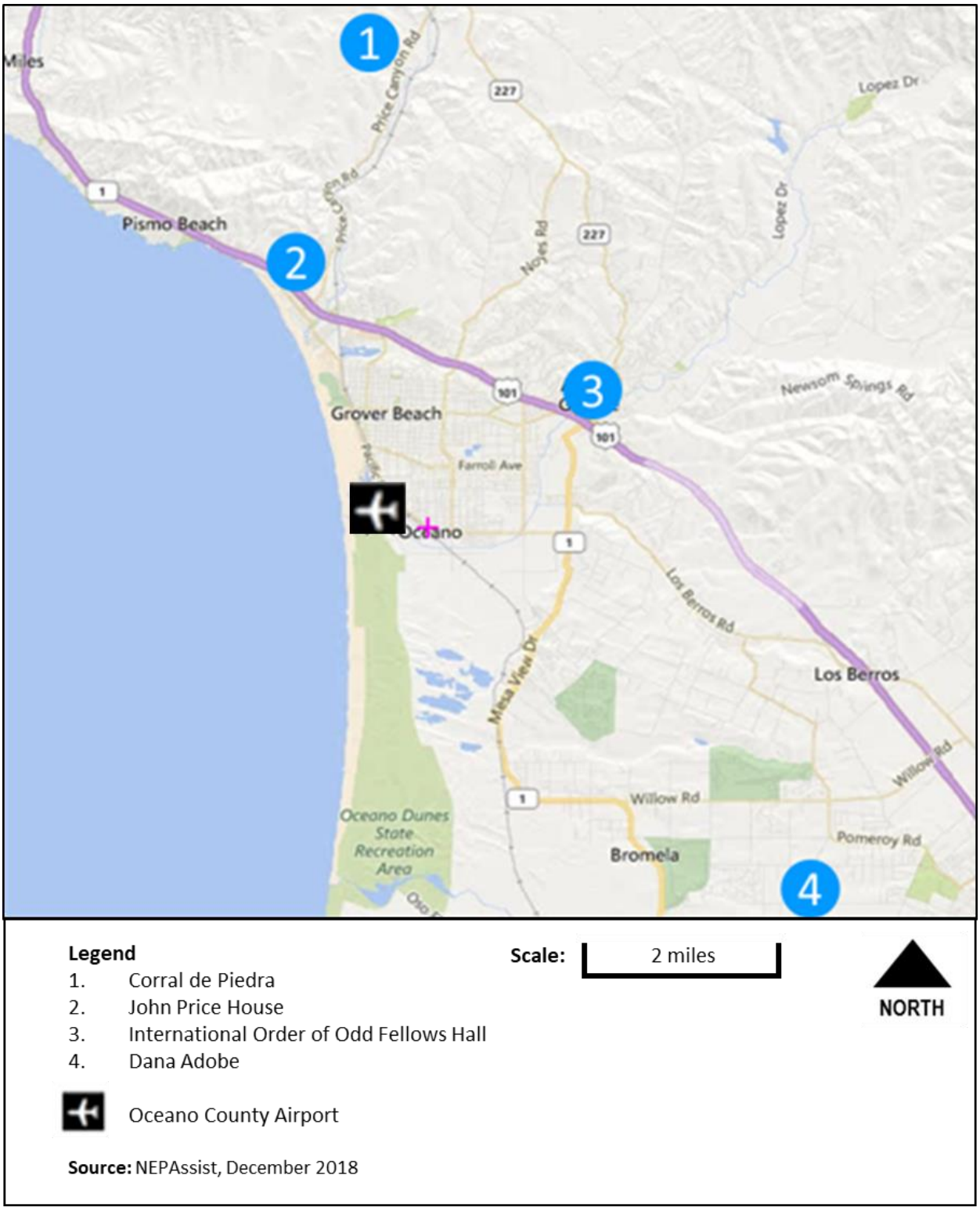
The APE for historic and architectural resources is the area of potential ground disturbance shown in **Figure 3-1**. According to the National Register of Historic Places (NRHP), the nearest historic structure listed is the Arroyo Grande Independent Order of Odd Fellows Hall, approximately 2 ¾ miles northeast of the project site (see Item 3 on **Figure 3-6**). No buildings on the Airport are listed in the NRHP. Historic aerial photography[10] indicates that most of the buildings on the Airport are less than 50 years old. One utility/storage building predating the earliest available aerial photo (1994) currently houses the Airport's electrical vault, among other uses. This is a metal frame structure with stucco for exterior walls, a metal and corrugated roof, and wood stud walls on the interior. A previous Airport tenant extensively remodeled the structure in the early 2000s. As a result, this is a basic utility building that is not considered to be eligible for the NRHP.

3.7.2.2 Archaeological Resources

The APE for archaeological resources is the area of potential ground disturbance shown in **Figure 3-1**. This area has been heavily disturbed as part of previous Airport-related development. A records review was conducted at the Central Coast Information Center in

[10] Google earth historical imagery, December 2018.

Figure 3-6
NEAREST PROPERTIES ON THE NATIONAL REGISTER OF HISTORIC PLACES



Source: NEPAssist, December 2018; LSA, 2018

December 2018 (see **Appendix F**) to identify cultural resources in the APE and to review previous studies and literature relevant to the APE. **Table 3-3** summarizes the results of four previous cultural resource surveys completed in and around the APE. These surveys did not identify artifacts associated with the original soils; rather, the archaeological materials found on the site had been redeposited as fill for previous Airport development and would not be eligible for listing in the NRHP and, therefore, do not constitute a historic property (36 CFR 800.16(l)(1)).

Table 3-3
CULTURAL RESOURCES SURVEY RESULTS

Author and Date	Title and CCIC File No.	Findings
Dills (1990a)	Archaeological Potential of Pismo Coast Village RV Lot in Oceano (SL-1417)	No resources identified in APE
Dills (1990b)	Archaeological Potential of Proposed RV Park at W End of Silver Spur, Oceano (SL-1977)	No resources identified in APE
Gibson (1994a)	Results of a Phase One Archaeological Surface Survey for a Proposed Aircraft Storage Hangar Construction Project, Oceano County Airport, Oceano CA (SL-2727)	Redeposited pre-contact and historic period materials identified in APE
Gibson (1994b)	Results of Phase One Archaeological Surface Survey for a Two Acre Area at the Oceano County Airport, Oceano, CA (SL-2728)	Recent cultural materials identified in APE

Source: LSA, December 2018

3.7.2.3 Tribal Lands

The APE is located on Airport-owned property in San Luis Obispo County, which has no known Tribal lands according to the United States Department of Interior, Indian Affairs Office.[11] The NAHC Sacred Lands File indicate that the APE is "positive" for Native American cultural resources, and the NAHC recommended consultation with the San Luis Obispo County Chumash Council for more information.

Initial coordination with the State of California NAHC, Cultural and Environmental Department, identified the following tribes that may have an interest in the APE for archaeological resources and provided contacts for further consultation (see **Appendix F**).

1. Barbareno/Ventureno Band of Mission Indians
2. Coastal Band of the Chumash Nation
3. Northern Chumash Tribe
4. Santa Ynez Band of Chumash Indians

[11] USDOT Indian Affairs. (2018, September 14). Tribal Directory Dataset. Retrieved September 2018, from https://www.bia.gov/tribal-leaders-directory.

3.8 LAND USE

CEQ Regulations requires the consideration of possible conflicts between the proposed action and the objectives of Federal, regional, State, and local or tribal land use plans, policies, and controls. This section also addresses the airport sponsor's assurance under 49 USC § 47107(a)(10), of the 1982 Airport Act, that requires airports to take "appropriate action," including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations.

3.8.1 Applicable Laws and Regulations

The applicable laws and regulations pertaining to land use are provided in **Appendix H**.

3.8.2 Potentially Affected Environment

Land use in the areas surrounding the Airport is regulated by several agencies including the County of San Luis Obispo, the Coastal Commission, and the Airport Land Use Commission (ALUC). **Figure 3-7** shows generalized land use in San Luis Obispo County, Oceano Community Plan. In addition to its County zoning, the Airport is located in an AIR overlay district that imposes height limits on structures in the vicinity of the Airport in compliance with State law and Federal Aviation Regulations (FAR), Volume XI, Part 77. **Figure 3-8** shows the Oceano County ALUP Zones.

3.8.2.1 San Luis Obispo County Oceano Community Plan

The San Luis Bay Area Plan – Coastal designates the airport as Public Facilities. The Airport is surrounded by Residential Suburban, Residential Multi Family, Rural Lands, Recreation, and Public Facility land uses. Areas designated as General Industrial, Limited Industrial, Open Space, General Commercial, and un-zoned areas typically in agricultural use. The Oceano Community Plan establishes "Combining Designations" that overlay maps and symbols applied in areas of the county with potentially hazardous conditions or special resources, where more detailed project review is needed to avoid or minimize adverse environmental impacts or effects of hazardous conditions on proposed projects. The Oceano Community Plan includes the following policies affecting the Airport.

> *Oceano County Airport and its environs are under the jurisdictions of two separate series of regulations and accompanying review processes: The Federal Aviation Administration Part 77 regulations which, in part, address hazardous interference with air traffic by the height of buildings and structures, and electronic emissions which could impede aircraft communications and navigation…* [12]

[12] Oceano Community Plan, Chapter 6, Combining Designations, Adopted February 2014

3.8.2.2 Oceano County Airport Land Use Plan

As described above, the San Luis Obispo ALUC has adopted an ALUP that establishes districts to protect the functionality of the Airport, protect people and property on the ground, minimize injury to aircraft occupants, and prevent the creation of new hazards to flight (see **Figure 3-8**). ALUP Policies regarding airspace protection are applicable, and no structure, glare, apparatus, or other feature shall be installed or constructed that constitutes an obstruction to air navigation or hazard to air navigation. A brief discussion of land use policies related to these districts follows.

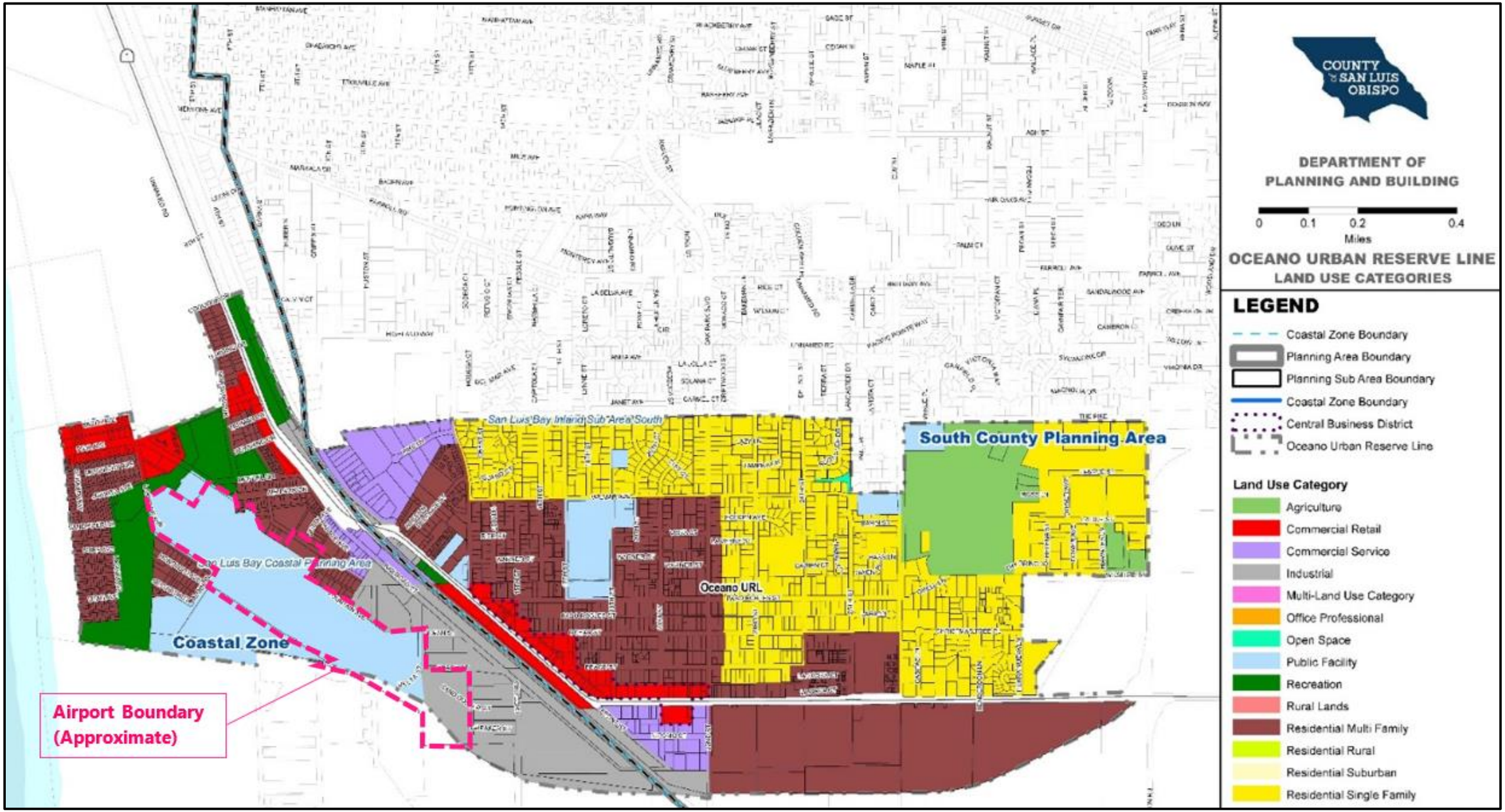
- **RA-1.** Residential zoning with existing housing in zones defined by the current Caltrans Airport Land Use Planning Handbook (the Handbook) as the Runway Protection Zones and Inner Approach / Departure Zones of the airport.
- **RA-2.** Residential areas in areas identified by the Handbook as the Inner Turning Zones and Sideline Zones of the airport.
- **Oa.** Recreational or Public Facility County zoning and undesignated areas that are substantially undeveloped and within Runway Protection Zones, Inner Approach/Departure Zones, Inner Turning Zones, and the Sideline Zones.
- **C.** Areas zoned for retail commercial use by the County within the stated defined Runway Protection Zones and Inner Approach/Departure Zones.
- **I-1.** Areas designated for industrial use by the County within the Runway Protection Zones.
- **I-2.** Areas designated for industrial use by the County within the Inner Approach / Departure Zones.
- **I-3.** Areas designated for industrial use by the County within the Sideline Zone and the Outer Approach / Departure Zones.
- **AGa.** Areas designated for agricultural use by the County within the Inner Turning Zones and Outer Approach/Departure Zones.
- **TP-1.** Areas in the Airport Planning Area that are not included in any of the planning areas described above and are located to the south and west of the extended runway centerline.
- **TP-2.** Areas in the Airport Planning Area that are not included in any of the planning areas described above and are located to the north and east of the extended runway centerline.

In addition to the zones described above, **Figure 3-8** also shows the Runway Protection Zone (RPZ). The dimensions of the RPZ vary according to the type of runway[13]. Any proposed development in the RPZ would require ALUC review for compatibility within the RPZ in accordance with FAA Airport Design Standards.[14]

[13] The RPZ shown in Figure 3-3 reflects the policies of the Airport Land Use Plan and may not reflect current Airport planning considerations or FAA standards.

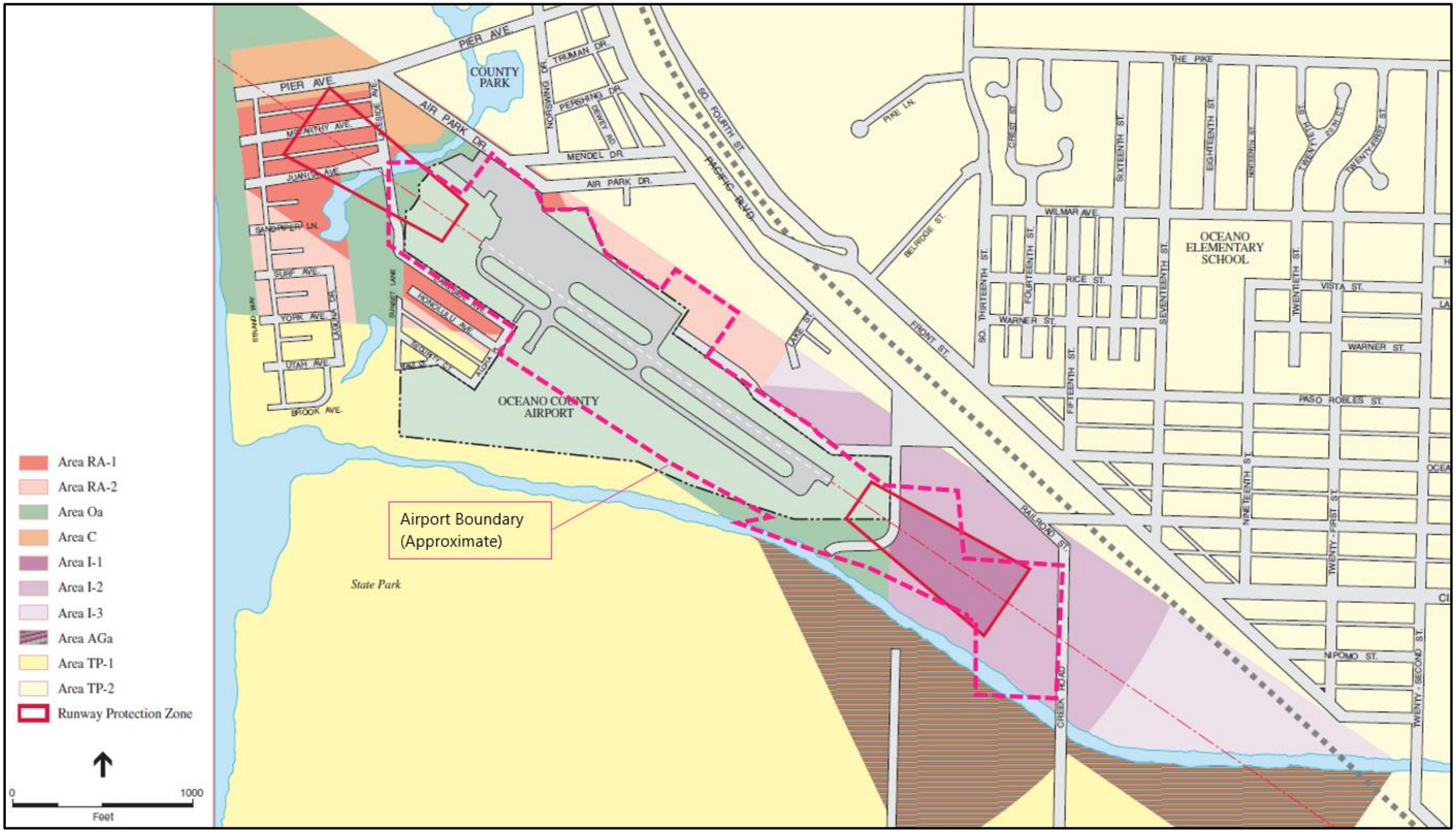
[14] FAA AC 150/5300-13 CHG 10, Paragraph 212.

Figure 3-7
OCEANO GENERALIZED LAND USE



Source: San Luis Obispo County, Oceano Community Plan, 2018

Figure 3-8
OCEANO COUNTY AIRPORT LAND USE PLAN ZONES



Source: Airport Master Plan for Oceano Airport, Final Report, Coffman Associates, March 18, 2008.

3.8.2.3 Coastal Plan/Local Coastal Program.

As described in **Section 3.3**, the Airport is located in the State of California Coastal Zone (see **Figure 3-1**). San Luis Obispo County has Local Coastal Plan Policies, which were certified by the Coastal Commission and adopted by the San Luis Obispo County Board of Supervisors. The corresponding CZLUO, also adopted by the County Board of Supervisors, list the Airport as a permissible use, which includes "appurtenant areas used for airport buildings, aircraft operations and related facilities".

3.9 NATURAL RESOURCES AND ENERGY SUPPLY

The Federal government encourages airport development that minimizes the use of consumable natural resources and minimizes demands on energy supplies. FAA policy also encourages developing facilities that use the highest design standards and that incorporate sustainable designs. Airport personnel and tenants regularly use consumable materials to maintain various airside and landside facilities and services. Those materials may include asphalt, concrete, aggregate for sub-base materials, various metals associated with such maintenance. The applicable laws and regulations pertaining to natural resources and energy supply are provided in **Appendix H**.

Electrical power is necessary to keep the Airport operational and safe. Airport lighting within project area consists of airfield navigational aids, runway taxiway edge lighting, signage, landside lighting for buildings, access roadways, apron areas, and automobile parking areas.

3.10 NOISE AND NOISE-COMPATIBLE LAND USE

The compatibility of existing and planned land uses with proposed aviation actions is usually determined in relation to the level of aircraft noise. The applicable laws and regulations pertaining to noise and noise-compatible land use are provided in **Appendix H**.

The Airport currently serves only small (Design Group I and II) airplanes and the Proposed Action would not lead to changes in the aircraft types using the airport. The total number of aircraft operations (an operation is one takeoff or one landing) at the Airport is not forecast to exceed 10,000 operations through the forecast period and there are no jet operations. As discussed in FAA Order 1050.1F Appendix B, no aircraft noise analysis is needed for projects involving Design Group I and II airplanes (wingspan less than 79 feet), in Approach Categories A through D (landing speed less than 166 knots) operating at airports whose forecast operations in the period covered by the NEPA document do not exceed 90,000 annual propeller operations (247 average daily operations), or 700 annual jet operations (2 average daily operations), as such operations do not have the potential to create significant noise impacts. Therefore, as the Proposed Action does not have the potential to generate a significant level of additional aircraft noise, that topic is not evaluated further. The potential for the construction equipment used in

the Proposed Action to generate a significant level of noise during construction is evaluated in **Section 4.10** of the Environmental Consequences section of this EA.

3.11 SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

Socioeconomic effects relate to how the project might affect population, employment, housing, and public services. Environmental justice effects relate to the potential for an action to disproportionately affect minority and/or low-income populations. Children's health and safety risks relate to the possibility that an action might pose environmental health and safety risks that may disproportionately affect children.

3.11.1 Applicable Laws and Regulations

The applicable laws and regulations pertaining to socioeconomics, environmental justice, and children's environmental health and safety risks are provided in **Appendix H**.

3.11.2 Potentially Affected Environment

The following analysis summarizes relevant characteristics for Airport environs, the Oceano Census-Designated Place, San Luis Obispo County, and the State of California. The Airport and surrounding is located in San Luis Obispo County Census Tract 122, which represents the area immediately surrounding the Airport.

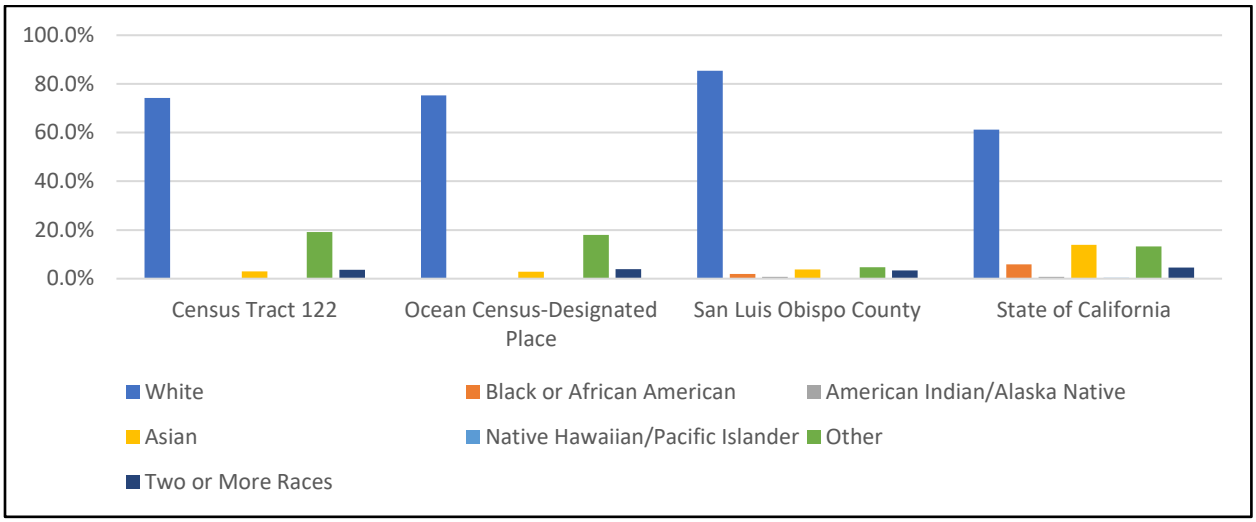
Figure 3-9 summarizes the race and ethnicity characteristics. All areas are predominantly white, ranging from 74.2 percent in Census Tract 122 to 61.3 percent in the State of California. Minorities (non-white) represent 25.7 percent of the population in Census Tract 122, which is lower than in the State of California (38.8 percent) and is similar to the proportion of minority population in the Oceano Census-Designated Place (24.7 percent).

Figure 3-10 summarizes median household income. The median household income in Census Tract 122 is $54,155, which is higher than in the Oceano Census-Designated Place, but lower than both San Luis Obispo County and the State of California. The State of California has the highest median household income at $63,783.

Figure 3-11 summarizes population living at or below the poverty level. A low-income individual is a member of a household having annual income at or below the Department of Health and Human Services poverty guidelines.[15] In Census Tract 122, 22.4 percent of the population have incomes below the poverty level, compared to 14.2 percent for San Luis Obispo County, 21.2 percent in the Oceano Census-Designated Place, and 15.8 percent for the State of California.

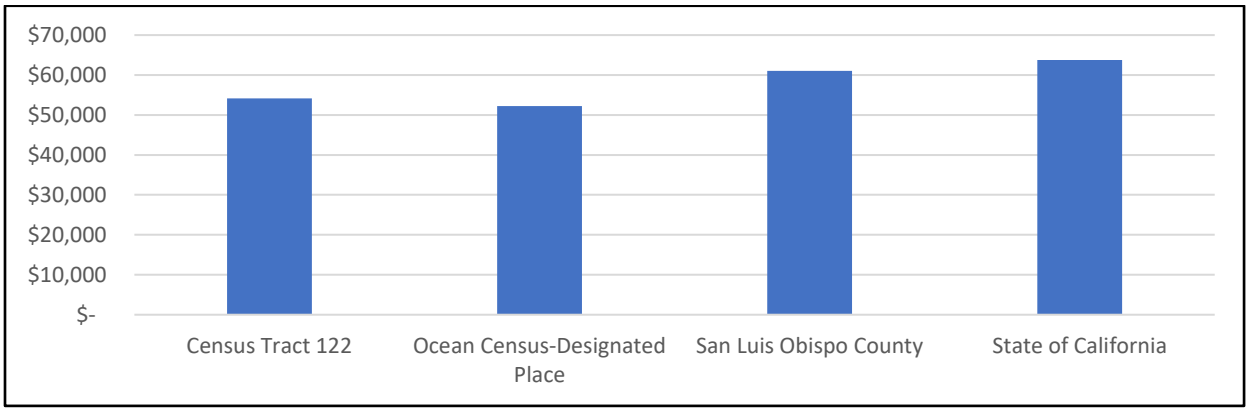
[15] U.S. DHHS (2018, January). U.S. Department of Health & Human Services, ASPE Office of the Assistant Secretary for Planning and Evaluation, Poverty Guidelines. Retrieved from: https://aspe.hhs.gov/poverty-guidelines, November 2018.

Figure 3-9
RACE & ETHNICITY



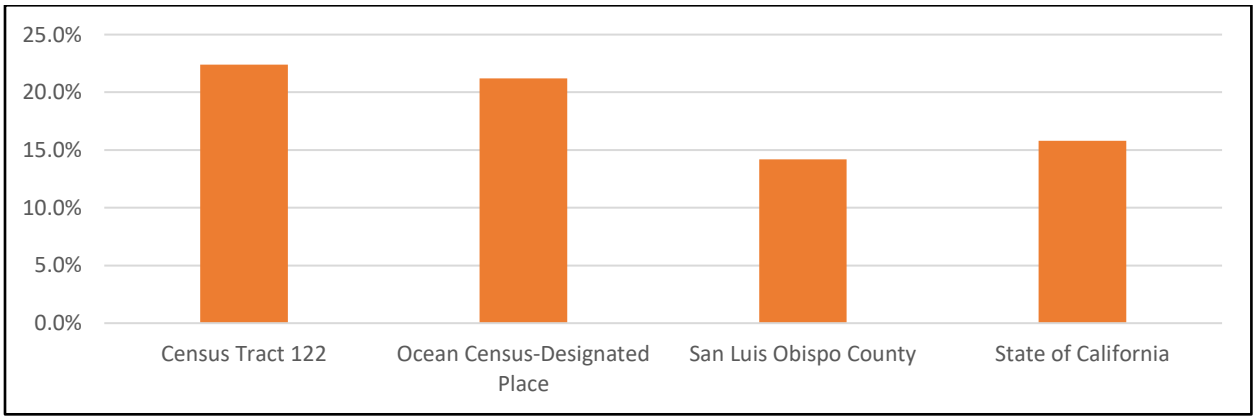
Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

Figure 3-10
MEDIAN HOUSEHOLD INCOME



Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

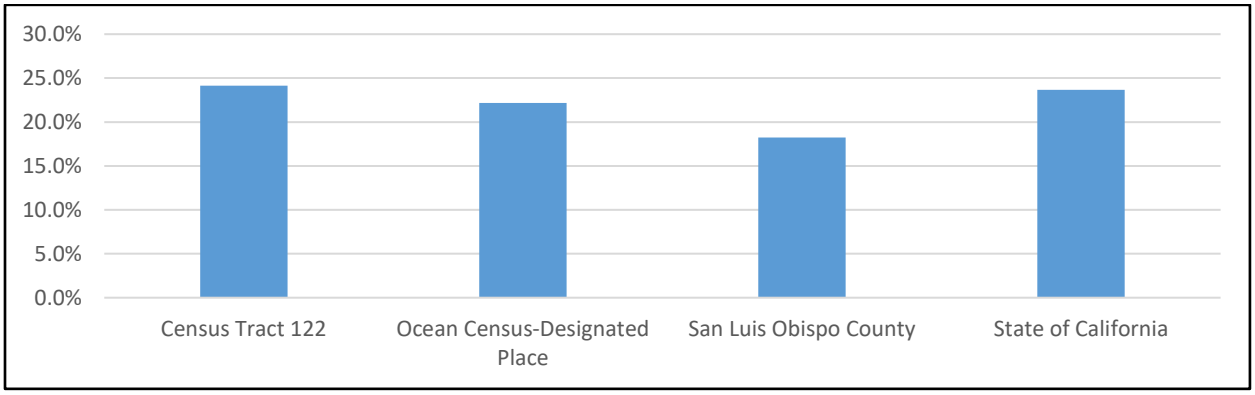
Figure 3-11
POPULATION BELOW THE POVERTY LEVEL



Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

Figure 3-12 compares the proportions of individuals under the age of 18. Federal agencies are required to assess environmental health and safety risks that may disproportionately affect children; children or minors. Census data only record people below the age of 18, which serves to represent children and minors. Census Tract 122 has the highest percentage of individuals under the age of 18 at 24.1 percent, while San Luis Obispo County has the lowest percentage of population below the age of 18 at 18.2 percent.

Figure 3-12
POPULATION BELOW AGE 18



Source: U. S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

3.12 VISUAL EFFECTS

There is no federal statutory or regulatory requirement regarding adverse effects resulting from light emissions or visual impacts. Order 1050.1F describes factors to consider within light emissions and visual resources/visual character. Potential impacts of light emissions include the annoyance or interference with normal activities as well as effects to the visual character of the area due to light emissions, including the importance, uniqueness, and aesthetic value of the affected visual resources.

Current Airport facilities are illuminated for safety and security reasons by various types of landside lighting for buildings, access roads, apron areas, and automobile parking areas, as well as airside lighting for the runway, taxiways, and apron areas. Runway, taxiway, and apron areas are lighted for nighttime operations as well. The closest light sensitive land use, a residential area, is a multi-family residential area located adjacent to the northwest quadrant of the Airport (see **Figure 3-8**).

The Airport is visible to adjacent land uses. The views are through existing Airport fencing and consists primarily of pavement, infield areas, aircraft tie-down areas, and hangars. These views are considered to be compatible with the surrounding land uses.

3.13 WATER RESOURCES

Water resources include wetlands, surface waters and groundwater, and floodplains. These water resources form an integrated natural system. Disruption of any one part of this system can have consequences to the functioning of the entire system.

3.13.1 Applicable Laws and Regulations

The applicable laws and regulations pertaining to wetlands, floodplains, surface waters, and groundwater are provided in **Appendix H**.

3.13.2 Potentially Affected Environment

Historically, the airport was an estuarine environment formed by the confluence of Meadow Creek and Arroyo Grande Creek, with many wetlands and lagoons, likely herbaceous and willow woodland. In the 1950's, the runway and infrastructure were created through vegetation removal and fill. Areas that have not been filled still support coastal brackish marsh habitat due to the high-water table typical of the historical estuarine environments.

3.13.2.1 Wetlands

Figure 3-13 shows the location of wetland on the Airport. **Table 3-4** describes the types and sizes of these wetlands. Due to the proximity to Arroyo Grande Creek and the Pacific Ocean, the wetland features on the Airport are within CWA jurisdiction and filling those wetland features would require a federal CWA, Section 404, permit. As the Airport is within the coastal zone under the jurisdiction of the California Coastal Commission, the wetland areas would be considered wetlands under the California Coastal Act. **Appendix G** provides more detailed information about the wetlands found on the Airport.

3.13.2.2 Floodplains

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map Parcel ID 06079C1601G shows that the project site is located in a 100-year floodplain (i.e., Zone AE) influenced by the Arroyo Grande Creek, Meadow Creek, and the Pacific Ocean (see **Figure 3-14**). The base flood elevations at the airport range from 14 to 16 feet above mean sea level (MSL). The lowest portion of the Airport, the northwest end of Runway 11/29, is 12 feet MSL.[16]

3.13.2.3 Surface Waters

Surface waters include areas where water collects on the surface of the ground, such as streams, rivers, lakes, ponds, estuaries, and oceans. Surface waters in vicinity of the Proposed Action include the Arroyo Grande Creek and the Pacific Ocean, located 500 feet south and 2,000 feet west of the project site, respectively. The Airport is located in the Meadow Creek-Frontal Pacific

16 Oceano County Airport Layout Plan, prepared by RS&H, Approved June 2015.

Table 3-4
WETLAND TYPES AND SIZES

Delineated Wetlands		
ID	Type	Acres
A	Emergent Palustrine (1)	0.83
B	Emergent Palustrine (2)	0.10
C	Emergent Palustrine (1)	0.18
D	Scrub-shrub, Emergent Palustrine (1)	0.24
E	Scrub-shrub, Palustrine (1)	0.33
F	Emergent Palustrine (2)	0.79
G	Emergent Palustrine (1)	0.22
H	Scrub-shrub, Emergent Palustrine (1)	0.64
I	Emergent Palustrine (1)	0.64
J	Emergent Palustrine (1)	1.26
K	Scrub-shrub, Palustrine (2)	0.31
L	Scrub-shrub, Palustrine (2)	0.70

Notes: (1) Meets US Army Corps of Engineers and California Coastal Commission definition; (2) Meets California Coastal Commission Definition only.
See Appendix G, Table 2 for more details
Source: Althouse and Meade, January 2019

Ocean watershed. The projects incorporated in the Proposed Action would be located in Airport drainage basins 2, 3 and 4, which drain to their respective outfalls, as shown in **Figure 3-15**. Outfalls 2 and 3 drain to the Oceano Lagoon, while Outfall 4 drains via a surface stream to Arroyo Grande Creek.

3.13.2.4 Groundwater

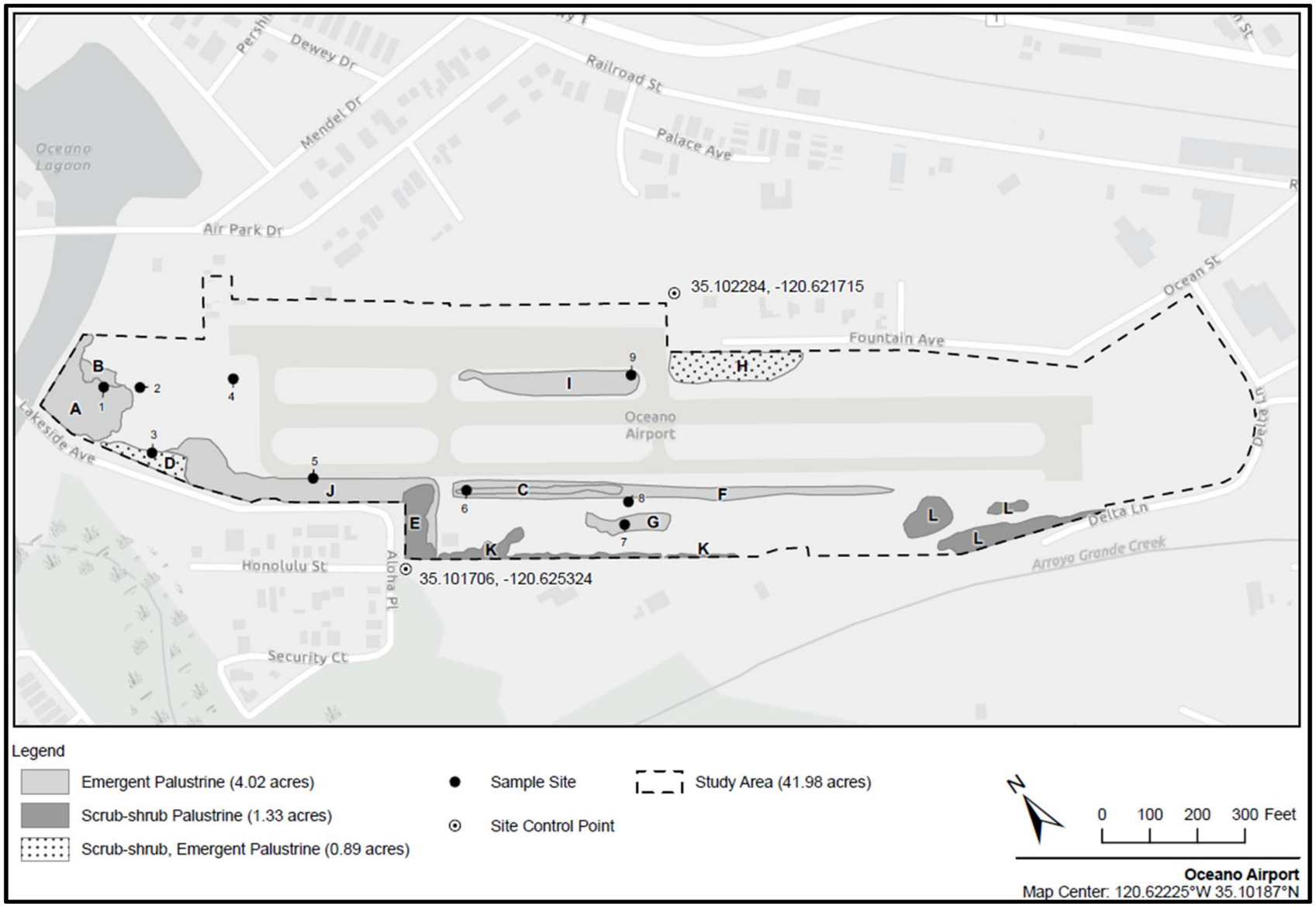
The Arroyo Grande Creek is located approximately 500 feet south of the Airport. The nearest sole source aquifer to the Airport is the Fresno County Aquifer, which is located about 80 miles to the northeast. The Pacific Ocean is also located about 2,000 feet from the Airport.[17]

The Oceano Community Service District provides water to the Oceano community; the Lopez allotment is 303 acre-feet per year, supplemented with groundwater from wells.[18] The Lopez

17 Ibid.

18 SLO. (2014, February). County of San Luis Obispo, Oceano Community Plan. Retrieved from: https://www.slocounty.ca.gov/getattachment/.../Oceano-Inland-Community-Plan.aspx, November 2018.

Figure 3-13
WETLANDS DELINEATION



Source: Althouse and Meade, January 2019

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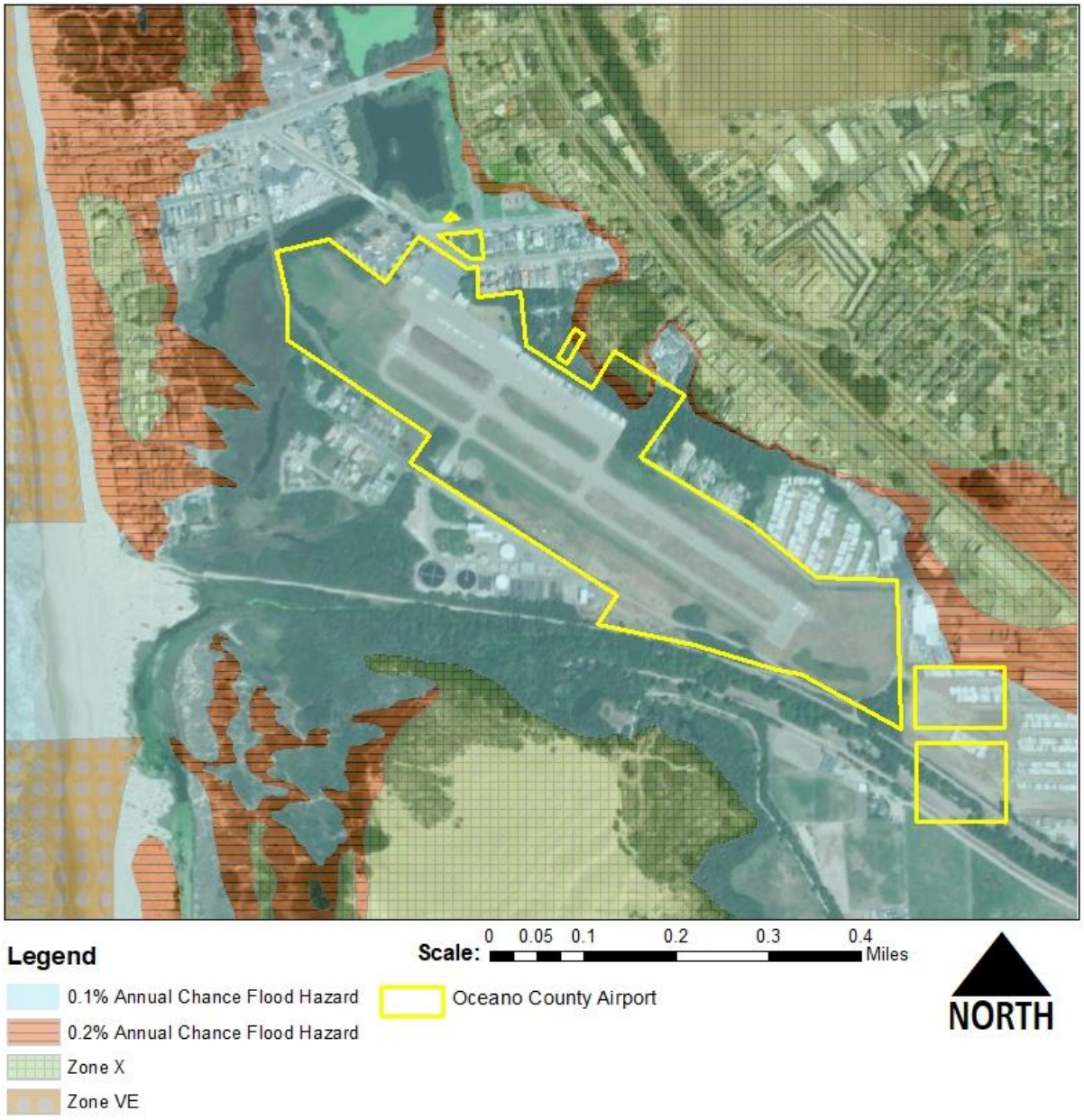
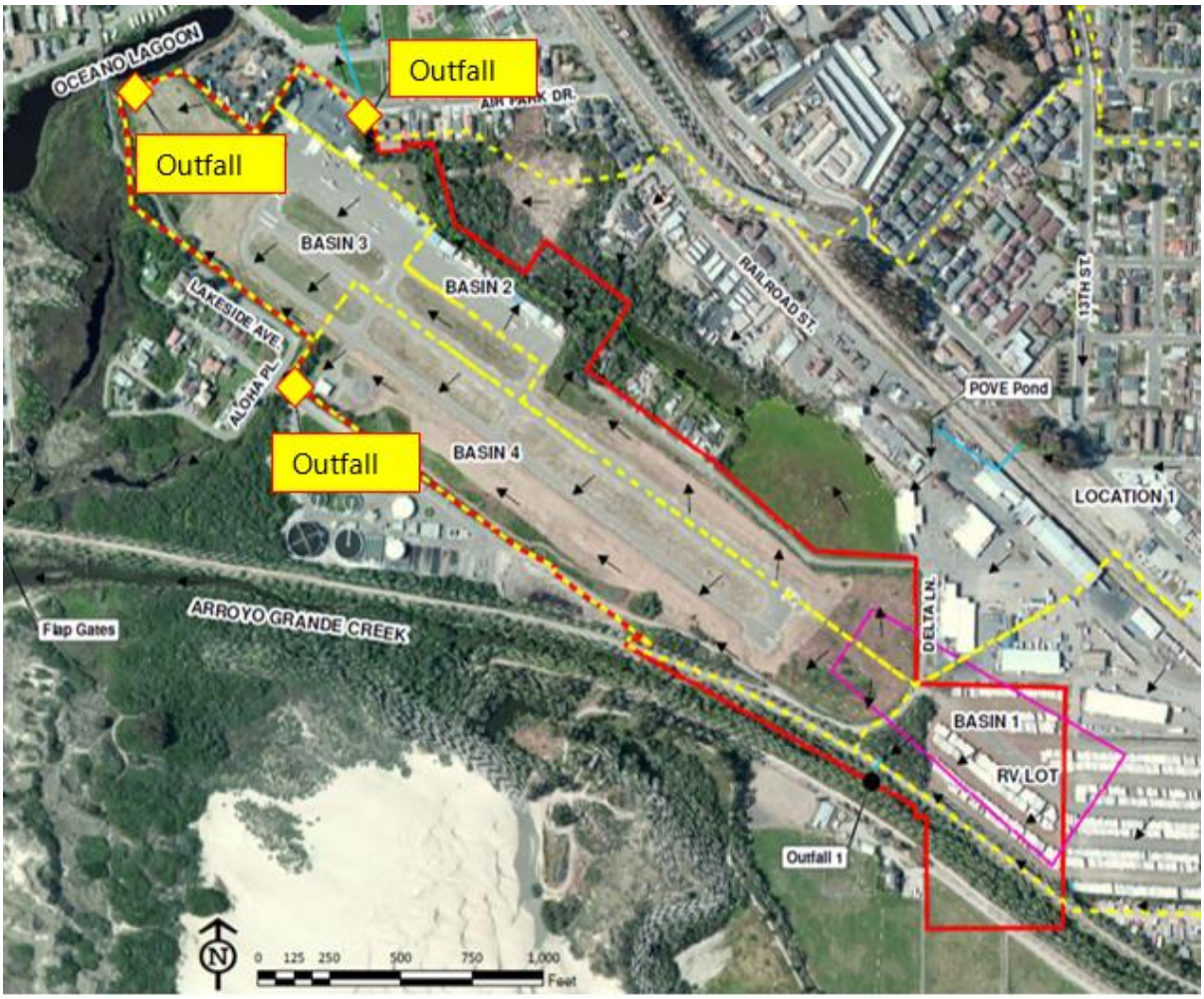
Figure 3-14
FLOODPLAINS



Source: City of San Luis Obispo – SLO Flood Zones, 2019; RS&H, 2019.

Figure 3-15
OCEANO COUNTY AIRPORT DRAINAGE BASINS AND OUTFALLS



Source: Oceano County Airport Drainage Study, RS&H 2013

allotment or Lopez Water Project includes Lopez Lake and Dam, Lopez Terminal Reservoir, Lopez Water Treatment Plant and Distribution System. The Lopez Project provides drinking water to Oceano census-designated place, as well as to Arroyo Grande, Avila Beach, Grover Beach, and Pismo Beach.[19]

3.14 OTHER PROJECTS WITH THE POTENTIAL TO CONTRIBUTE TO CUMULATIVE IMPACTS

This section identifies other past, present, or future projects near the Oceano County Airport that could contribute to cumulative impacts when considered in combination with the effects of

19 SLO. (2016, June). San Luis Obispo County Flood Control and Water Conservation District, *Zone 3 – A Wholesale Water Agency*, prepared by Wallace Group. Retrieved October 2019, from: https://www.slocounty.ca.gov/Departments/Public-Works/Forms-Documents/Committees-Programs/Flood-Control-Zones/Zone-3-Lopez-Project/Plans-Reports/2015-Urban-Water-Management-Plan.aspx.

the projects incorporated in the Proposed Action. **Table 1-2** shows that all of the projects incorporated in the Proposed Action would be in design between 2020 and 2024 and would be under construction between 2021 and 2025. Past actions will have been built or implemented prior to 2021 and must, therefore, have ongoing effects to contribute to cumulative impacts when considered in combination with the projects included in the Proposed Action. Current projects will be in development between 2021 and 2025 and might therefore contribute to cumulative impacts. Future actions are planned for some time after completion of the projects listed in **Table 1-2** and could contribute to cumulative impacts when considered in combination with ongoing effects of the projects incorporated in the Proposed Action. Past, present, and reasonably foreseeable on-Airport projects are listed below.

Past. Recent projects have included the following:

- **Installation of Automated Weather Observation Station (AWOS)**. This project included the installation of an AWOS at the Airport.
- **Oceano Drainage Improvement Project**. This project constructed drainage improvements to alleviate existing drainage issues in the town of Oceano at Highway 1.

Present. No projects other than those incorporated in the Proposed Action are planned for the period between 2021 and 2025.

Future. The following development is planned for some time after 2025; however, the timing of these projects has not been established.

- Redevelopment of existing terminal/fueling area. Redevelopment will provide multiple hangars and additional ramp for transient aircraft. Existing terminal/office and house will be removed, and fueling facility relocated.
- Extension of ramp for additional hangars on southwest side of airfield. Roadway will be extended from Delta Lane and all development will remain outside Army Corps and Coastal Commission wetlands.
- Release of excess non-aeronautical property and pursuit of abandoned right-of-way property within the RPZ.
- Redevelopment of older County-owned hangars on the existing ramp. Hangars will be replaced by four new hangars, approximately 2,500 square feet each. The existing campground will be maintained for transient pilots.

In addition to these Airport development projects the Oceano Community and San Luis Obispo County have approved or received development applications for several developments in the vicinity of the Airport. Projects near the Airport include:

- **Air Park Drive Bridge Replacement Project**. The bridge is located between Pier Avenue and Mendel Drive in Oceano. Construction of the Air Park Drive Bridge

Replacement Project began on June 25, 2018 and continued into early December 2018. A ribbon cutting ceremony for New Air Park Drive Bridge, Oceano took place at the Oceano Lagoon off Pier Avenue on June 13, 2019.

- **Grover Beach Lodge**. This beachside project includes a 150-room hotel, 174 public parking spaces, 186 hotel spaces and 15 oversize vehicle and equestrian parking spots. This project will start preliminary construction at the end of Grand Avenue in the spring of 2021, and open by spring of 2024.
- **Grover Beach Train Station Safety Upgrades**. The expansion and renovation project will enhance safety and accessibility for passengers. Renovation construction began in August 2018 and was completed in the early summer of 2019.
- **Oceano Revitalization Plan**. Study area design concepts in the Oceano Community are located at Highway 1 between Belridge Street & OCSD Building, Highway 1 between OCSD Building & Railroad Street, Highway 1 at 13th Street & Paso Robles Street Intersection, 13th Street at Highway 1, Paso Robles at Highway 1, Highway 1 at 15th Street and Oceano Street Intersection, Highway 1 at Railroad and Beach Streets, Intersection and Sidewalk Tools and Strategies, and Infill Housing. Work on the Oceano Revitalization Plan began in spring 2012 and was completed in July 2013.

CHAPTER 4. ENVIRONMENTAL CONSEQUENCES

This chapter documents the direct and indirect impacts of the Proposed Action compared to the No Action Alternative, as directed in FAA Order 1050.1F. The Chapter address the following environmental resource categories as listed in FAA Order 1050.1F.

1. Air Quality
2. Biological Resources
3. Climate
4. Coastal Resources
5. Department of Transportation Act Section 4(f)
6. Hazardous Materials, Solid Waste, and Pollution Prevention
7. Historical, Architectural, Archaeological, and Cultural Resources
8. Land Use
9. Natural Resources and Energy Supply
10. Noise and Noise Compatible Land Use
11. Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks
12. Visual Effects
13. Water Resources
14. Cumulative Impacts

The six improvements incorporated in the Proposed Action (elements or project elements) described in **Chapter 1** would not individually or collectively increase the capacity of the Airport or otherwise affect aircraft operations. In the absence of increased aviation activity, no increase in surface vehicle traffic would occur. Therefore, the following analyses focuses on the effects of physical development of the proposed improvements.

4.1 AIR QUALITY

As described in **Section 3.1**, the Airport is located in a portion of San Luis Obispo County that is in attainment for all NAAQS. Therefore, no CAA Conformity Analysis for conformity of the Proposed Action with a State Implementation Plan is required. State Implementation Plans are not prepared for areas that have continuously met all NAAQS.

4.1.1 Methodology and Thresholds of Significance

FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures, Exhibit 4-1,* states air quality impacts are considered significant when an action would cause pollutant concentrations to exceed one or more of the NAAQS, as established by the USEPA under the CAA, including the 1990 Amendments, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations.

As the Airport is located in an attainment area for all criteria pollutants in accordance with the *FAA Aviation Emissions and Air Quality Handbook, Version 3, Update 1, Section 4.1.2,* a qualitative assessment of air quality impacts of the No Action and Proposed Action Alternatives is appropriate and described below.

4.1.2 Alternatives Evaluation

The No Action and Proposed Action alternatives would differ only with respect to temporary construction air emissions because the proposed projects do not result in a change in aircraft operations.

4.1.2.1 No Action Alternative

Neither the FAA TAF, which forecasts aircraft activity levels will remain relatively stable through 2035, nor the Oceano Airport Master Plan, which forecasts modest growth in aviation activity through 2025, forecast a substantial increase in aviation activity (see **Appendix B**). Both these analyses were prepared prior to the onset of the COVID-19 public health emergency in March 2020. This air quality analysis assumes that the aviation activity level will eventually return to levels present prior to the COVID-19 public health emergency. Therefore, aircraft aviation emissions of criteria pollutants at the Airport would not change markedly over time under the No Action Alternative and would not result in exceedances of the NAAQS. Surface traffic emissions would likely decrease slightly as vehicle emissions standards become increasingly more stringent.

4.1.2.2 Proposed Action

As implementation of the Proposed Action would not change aircraft activity levels at the Airport, air emissions associated with the use of the widened runway and taxiways would not change between the No Action Alternative and the Proposed Action Alternative and would not exceed any NAAQS. Aviation and surface transportation emissions of criteria pollutants would be the same as under the No Action Alternative. Implementation of other aspects of the Proposed Action including relocating the segmented circle and wind cone, installing hold position signage, installing a new electrical vault and electrical connections, and installing a pollution control facility (wash rack) would not change air operations and therefore not increase air emissions criteria pollutants at the Airport on an ongoing basis. Therefore, the only potential source of an increase in air emissions of criteria air pollutants would be associated with construction activities.

Construction Impacts

As the project area is in an attainment area for all criteria air pollutants with NAAQSs and is therefore not subject to the requirements of the CAA Conformity Regulations, temporary air emissions of priority pollutants for which NAAQS have been established would be not exceed the NAAQS. Construction activities would be temporary and would occur over a period of six

years (see **Table 1-2**), which precludes the potential for construction emissions exceeding the NAAQS. The most extensive construction efforts, the runway and taxiway widening, would require three and two months of construction activity, respectively. **Figure 1-3** shows that the elements of the Proposed Action are not concentrated in any one location on the Airport, which precludes the potential for construction emissions to exceed the NAAQS. Therefore, air emissions from the Proposed Action would not have a significant impact on air quality as they would not cause the exceedance of any NAAQS.

Construction would involve clearing about 0.72 acres of land, which could contribute to dust plumes that exceed California PM_{10} standards periodically through the year, especially during the spring months. **Appendix C** describes the San Luis Obispo County APCD air quality forecast zones for Oceano. This temporary air quality impact would be minimized by using construction best management practices (BMPs) as described below and would not result in a significant impact on air quality.

Physical Development and Operational Impacts

Under the Proposed Action, the numbers and types of aircraft operations would be the same as under the No Action Alternative. In the absence of increased aviation activity, related surface traffic would also be the same as under the No Action Alternative. Therefore, the Proposed Action would have no operational air quality impacts when compared to the No Action Alternative.

Potential Contribution to Cumulative Impacts

To contribute to potentially significant cumulative impacts by exceeding a NAAQS when considered in combination with other past, present, or reasonably foreseeable future actions, the Proposed Action would need to emit high levels of criteria pollutants at the same time and in nearly the same location as other actions. As noted above, the elements of the Proposed Action are not concentrated in any location on the airport and would not be constructed at the same time. In the absence of long-term air quality impacts, the Proposed Action would not contribute to potentially significant cumulative impacts. See **Section 4.14** for additional information.

Mitigation, Avoidance, and Minimization Measures for the Proposed Action

Implementation of the Proposed Action would have no long-term effects on air quality and no mitigation is proposed. While not required to reduce impacts to a not significant level, implementation of standard construction practices recommended by the San Luis Obispo County Air Pollution Control District, which include fugitive dust controls and reducing engine

idling when equipment is not in use, will further minimize the emissions of air pollutants during construction.[20]

4.2 BIOLOGICAL RESOURCES.

As described in **Section 3.2**, habitat types on the Airport consist of annual grassland, coastal brackish marsh, arroyo willow riparian woodland, non-native ornamental plants (iceplant and non-native ornamental trees), and developed areas (ruderal habitat and pavement) (see **Figure 3-4** and **Table 3-1**). This section describes the potential impacts of the Proposed Action compared to the No Action Alternative.

4.2.1 Methodology and Thresholds of Significance

FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures,* states impacts to biological resources are considered significant when the USFWS or the National Marine Fisheries Service determines that the action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species or would result in the destruction or adverse modification of federally designated critical habitat.

While FAA Order 1050.1F does not establish a specific threshold for significant impacts to non-listed species, FAA Order 1050.1F does identify factors to consider when determining whether an action would have the potential to have a significant impact on Biological Resources, which includes when an action would have the potential to cause the following effects.

- Induce a long-term or permanent loss of unlisted plant or wildlife species, specifically, the extirpation of the species from a large project area such as a new commercial service airport.
- Adverse impacts to special status species such as state species of concern, species proposed for listing, migratory birds, bald and golden eagles, or their habitats;
- Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their population.
- Adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural mortality, or ability to sustain the minimum population levels required for population maintenance.

A Biological Assessment (BA) was prepared to support the initiation of a Section 7 consultation with the USFWS and is provided in **Appendix E**.

4.2.2 Alternatives Evaluation

The following alternatives evaluation considers the factors listed above, bearing in mind that the FAA Order 1050.1F states that the factors to consider "…are not intended to be thresholds. If

20 San Luis Obispo County Air Pollution Control District, *Planning Department Standard Language File*, October 2016.

these factors exist, there is not necessarily a significant impact; rather, the FAA must evaluate these factors in light of context and intensity to determine if there are significant impacts."

Aircraft and surface vehicle activity would be the same for either alternative. The No Action and Proposed Action alternatives would differ with respect to the following considerations.

- Construction activity associated with the project elements of the Proposed Action.
- Increased paved areas associated with the widening of the Airport's runway and taxiways associated with the Proposed Action.
- Installation of the proposed pollution control facility (aircraft wash rack) associated with the Proposed Action.

4.2.2.1 No Action Alternative

Under the No Action Alternative, the elements of the Proposed Action would not be developed, and the Airport's effects on the biological resources identified in **Section 3.2** would not change. Drainage patterns and volumes would remain unchanged. **Figure 3-15** shows the existing Airport drainage basins and outfalls.

4.2.2.2 Proposed Action

The Proposed Action would increase the amount of impervious surface on the Airport approximately 0.75 acre, or about 6.6 percent. The Proposed Action would result in total impacts of up to approximately 9.93 acres, 9.18 acres of which would be temporary impacts. See **Table 4-1** for acreages potential temporary and permanent impacts to habitats including grassland, coastal brackish march, arroyo willow riparian forest, ruderal, iceplant mats, and anthropogenic. As shown in **Figure 3-4**, much of the area adjacent to the runway and taxiway consist of annual grassland and ruderal vegetation[21]. Annual grassland, ruderal, and coastal brackish marsh habitats are periodically mowed in and around the runway and taxiway for vegetation management. The majority of the project footprint shown in **Figure 1-3** consists of existing pavement (anthropogenic habitat) and/or regularly mowed and disturbed areas (annual grassland and ruderal habitat). A small amount (about 0.02 acres) of coastal brackish marsh would be permanently affected by the relocated segmented circle and wind cone. An additional 0.92 acre of coastal brackish marsh and arroyo willow riparian forest could be temporarily affected by construction activity such as vehicular traffic and materials staging.[22] The County plans to use existing paved areas for materials staging and equipment storage whenever possible to minimize wetland impacts (see **Section 4.13.1** for further discussion of wetland impacts and mitigation measures). See **Figure 4-1** for graphical representation of potential permanent and temporary habitat impacts attributed to the Proposed Action.

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21 Ruderal vegetation consists of plants that are early colonizers of disturbed lands.

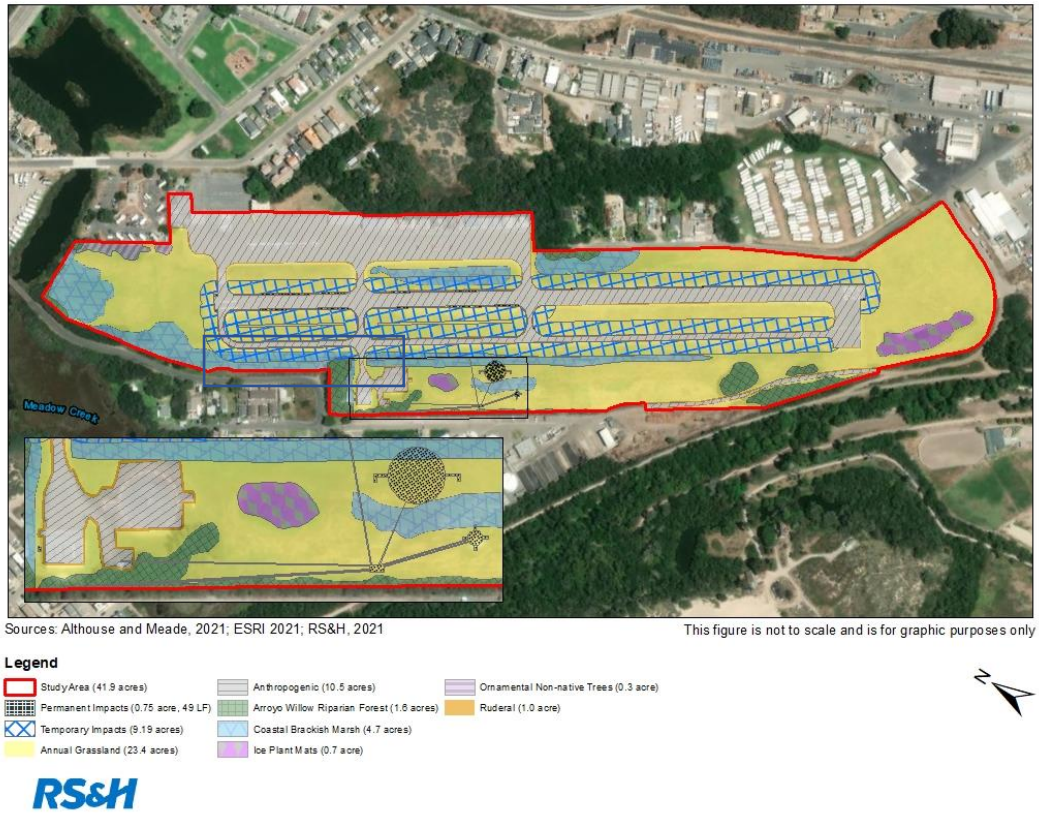
22 Assumes that any area within 50 feet of the project footprint could be affected.

Table 4-1
POTENTIAL HABITAT IMPACTS

Habitat Type	Temporary Impacts Acres	Permanent Impacts Acres	Total Impact Acres
Annual Grassland *	8.09	0.21	8.30
Coastal Brackish Marsh	0.89	0.02	0.91
Arroyo Willow Riparian Forest	0.03	0.00	0.03
Ruderal *	1.75	0.45	2.19
Anthropogenic *	0.00	0.10	0.10
Iceplant Mats *	0.00	0.00	0.00
Ornamental non-native trees *	0.00	0.00	0.00
Total	**9.18**	**0.75**	**9.93**

Note: * non-native vegetation
Source: Althouse and Meade, Inc Biological and Environmental Services, January 2019.

Figure 4-1
PROPOSED ACTION IMPACTS



Source: Althouse and Meade, Inc Biological and Environmental Services, January 2019.

Construction Impacts

Construction of the project elements would permanently affect up to 0.75 acres of land via runway and taxiway widening, installation of a new electrical vault, and relocation of the segmented circle and wind cone. It is possible that construction vehicle activity and trenching for electrical cables connecting the proposed electrical vault to the taxiway system, rotating beacon, and proposed AWOS could temporarily disturb another 9.18 acres. Therefore, there could be up to 9.93 acres of impacts. As noted above, most of this impact area consists of annual grassland and ruderal vegetation dominated by invasive and non-native species with very little habitat for federal or state special status species; only 0.02 acres of native vegetation (coastal brackish marsh) would be permanently displaced. Temporary and permanent impacts to native marsh and riparian habitats (see **Table 4-1**) would be mitigated by habitat restoration (see **Section 4.13.1.2**).

None of the federal and/or state special status plant species listed in **Table 3-2** were observed in botanically-timed field surveys and are not expected to occur within the project area. The Proposed Action would not affect special status plant species.

Four sensitive bird species have potential to occur on the Airport last listed in **Table 3-2**: burrowing owl, yellow warbler, white-tailed kite, and California black rail. There is potential wintering habitat for burrowing owl, though they were not observed during surveys and are unlikely to occur. There is moderate potential for white-tailed kite to occur, though they were not observed during surveys. The project site has no potential to support nesting white-tailed kite due to the lack of suitably large trees. However, suitable foraging habitat in the grassland and coastal brackish marsh is present. There is potential nesting habitat for California black rail, though it was not observed and is unlikely to occur. This species nests in brackish marshes, but the coastal brackish marsh habitat on the Airport is highly disturbed and is largely unsuitable. Yellow warbler was observed on site during surveys. This species nests in riparian plant associations, including willows, cottonwoods, etc., though the riparian habitat on the Airport is not favorable for yellow warbler. Temporary and permanent impacts may occur in grassland, marsh and riparian habitats that could support nesting birds. Direct impacts to special status birds would be avoided by implementing avoidance and minimization measures. Less than an acre of habitat would be permanently affected by the Proposed Action, but due to the acres of similar habitat elsewhere on the Airport and in the surrounding landscape, this loss of habitat would not significantly affect special status birds.

There is potential foraging habitat for two sensitive bumblebee species in the grassland and ruderal habitats in the Study Area. The Proposed Action would reduce available foraging habitat for bumblebees by less than an acre and impacts would not significantly adversely affect either species. The Proposed Action would not significantly affect sensitive bumblebee species.

American badger has low potential to occur on the Airport, since the grassland habitat is of low quality due to lack of prey and the presence of a perimeter fence. Potential impacts to badgers would be avoided by implementing avoidance and mitigation measures.

The determination of effects to the federally-listed California red-legged frog was made in consultation with the USFWS. A BA was prepared (see **Appendix E**) for submittal to the USFWS that documents that the California red-legged frog was not present during the field surveys and that no suitable aquatic habitat is present at the Airport. The closest reported occurrence of California red-legged frog to the Airport is approximately 0.2 miles southeast of the Airport in Arroyo Grande Creek, approximately 0.3 miles upstream from the creek mouth. California red-legged frogs are unlikely to occur within the project area or on the Airport due to the lack of aquatic habitat present and the road crossings between the Airport and Arroyo Grande Creek. Further, the use of avoidance and minimization measures, as identified below would prevent direct and indirect effects to California red-legged frog. Therefore, the BA determined that no direct or indirect effects are anticipated and the Proposed Action is not likely to adversely affect California red-legged frog. The BA has been submitted to the USFWS for concurrence with this determination in accordance with the Endangered Species Act, Section 7.

Collectively, construction impacts would not represent a significant impact as defined by the criteria described in **Section 4.2.1** because construction activity would not: result in substantial degradation of native species habitats; adversely affect critical habitat for any listed species; or cause adverse impacts to special status species or their habitats . Construction would temporarily affect less than one acre of wetlands that do not represent critical habitat for listed species, and permanently affect only 0.02 acres. As similar wetland habitats are abundant in the vicinity of the Airport, these impacts would not result in significant loss of habitat for sensitive species. Ground disturbance could also increase sediment loads in receiving waters that could, in turn, temporarily affect biological communities dependent on surface water resources. As discussed in **Section 4.13**, the use of BMPs to minimize water quality impacts would reduce potential water quality impacts of the project on biotic resources to a not significant level.

Physical Development and Operational Impacts

Aircraft and vehicular operational conditions would not differ from those of the No Action Alternative. As noted above, the small increase in impervious surface and associated runoff would be accommodated by the Airport's existing drainage system and are not significant, while operation of the proposed pollution control facility (wash rack) would enhance water quality in the Oceano Lagoon. Therefore, implementation of the Proposed Action would not result in significant environmental impacts from the physical implementation of the Proposed Action or the operational impacts of the Proposed Action.

Implementation of the Proposed Action would not result in a significant impact as defined by the criteria described in **Section 4.2.1**. Loss of 0.75 acres of habitat would not result in a significant impact to federally threatened or endangered species, or adverse modification to

federally designated critical habitat because the Proposed Action would permanently convert only 0.02 acres of native vegetation (see **Table 4-1**) and there is ample similar habitat in the surrounding area. In addition, the Proposed Action would not adversely affect critical habitat for any listed species. For these reasons, implementation of the Proposed Action would not adversely affect special status species or their habitats and not result in a significant impact on listed species.

Potential Contribution to Cumulative Impacts

The Proposed Action would not contribute to potentially significant cumulative impacts when compared with the other past, present, and reasonably foreseeable future actions identified in **Section 3.14**. To contribute to potentially significant cumulative impacts to biological resources when considered in combination with other past, present, or reasonably foreseeable future actions, the Proposed Action would need to have a lasting impact to biological resources to such a degree that the combined effects would exceed a threshold of significance. The thresholds of significance described in **Section 4.2.1** are based potential for a project to: (1) induce a long-term permanent loss of species; (2) adversely affect special status species; (3) cause a substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats; or (4) adversely affect a species population maintenance. The following summary describes the effects of the Proposed Action with respect to these criteria. **Section 4.14** for additional information.

- **Induce a long-term or permanent loss of unlisted plant or wildlife species.** According to the FAA Order 1050.1F Desk Reference, this criterion relates to the possibility that implementation of the Proposed Action would lead to extirpation of the species from a large project area such as a new commercial service airport. In contrast, the Proposed Action would permanently eliminate only 0.02 acres of wetlands, and 0.63 acres of non-native highly disturbed vegetation. To result in a significant impact, the effects of the Proposed Action and those of another past, present, or reasonably foreseeable future action would have to lead to the extirpation of a species in an area comparable to a commercial service airport. In that case, the impacts of the other project or projects would be many orders of magnitude greater than those of the Proposed Action the effects of Proposed Action would be negligible. In addition, the coastal brackish marsh habitat that would be lost as a result of the Proposed Action is common in the Airport environs. The loss of this area would have no effect on the survival of any species associated with these habitats and would not contribute to the cumulative loss of any plant or wildlife species.
- **Adverse impacts to special status species.** According to the FAA Order 1050.1F Desk Reference, this criterion relates to the possibility that implementation of the Proposed Action would adversely affect state species of concern, species proposed for listing, migratory birds, and bald and golden eagles or their habitats. As noted above, the Proposed Action would not adversely affect critical habitat for any federal or state listed species. The permanent loss of 0.02 acres of native vegetation 0.63 acres of non-native

highly disturbed vegetation would have no effect on the survival of any special status species, especially given the availability of such habitats in surrounding areas. In the absence of a measurable impacts to special status species, implementation of the Proposed Action would not contribute to potentially significant adverse impacts to special status species.

- **Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations.** As noted above, the Proposed Action would permanently eliminate only 0.02 acres of native vegetation and 0.63 acres of non-native highly disturbed vegetation and would not otherwise divide or fragment native species' habitats. As noted above, the types of natural vegetation affected by the Proposed Action are common in the Airport environs. To result in a substantial cumulative loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations, the impacts of other past, present, or reasonably foreseeable future action would have to be many orders of magnitude greater than those of the Proposed Action. The contributions of Proposed Action would be negligible in such cases.
- **Adverse impacts on a species' survival.** According to the FAA Order 1050.1F Desk Reference, this criterion relates to the possibility that implementation of the Proposed Action would adversely affect natural mortality rates, non-natural mortality, or ability to sustain the minimum population levels required for population maintenance. Implementation of the Proposed Action would not affect mortality rates for any species and would not contribute to potentially significant cumulative impacts.

Mitigation, Avoidance, and Minimization Measures for the Proposed Action

Although the Proposed Action would not result in significant impacts to biological resources, San Luis Obispo County proposes to implement the avoidance and minimization measures described below to further reduce potential impacts to biological resources. See **Section 4.13.1.2** for mitigation, avoidance, and minimization measures that address wetland and riparian habitat.

Nesting Birds. If work occurs between March 15 and August 15, within one week of the ground disturbance activities, nesting bird surveys shall be conducted. If nesting birds are located, no construction activities shall occur within 100 feet of nests until chicks are fledged. A pre-construction survey report shall be submitted to the lead agency immediately upon completion of the survey. The report shall detail appropriate fencing or flagging of the buffer zone and make recommendations on additional monitoring requirements. A map of the Proposed Action site and nest locations shall be included with the report. The biologist conducting the nesting survey shall have the authority to reduce or increase the recommended buffer depending upon site conditions.

If specials status bird species are identified during the surveys, occupied nests shall be mapped using GPS or survey equipment. Work shall not be allowed within a 100-foot buffer (for non-raptors) or 300-foot buffer (for raptors) while the nest is in use. The buffer zone shall be

delineated on the ground with orange construction fencing where it overlaps work areas. The certified biologist conducting the nesting survey shall have the authority to reduce or increase the recommended buffer depending upon site conditions.

Occupied nests of special status bird species that are within 100 feet (for non-raptors) or 300 feet (for raptors) of work areas shall be monitored at least every two weeks through the nesting season to document nest success and check for compliance with buffer zones. Once nests are deemed inactive and/or chicks have fledged and are no longer dependent on the nest, work may commence in these areas.

American Badgers. A pre-construction survey shall be conducted within thirty days of beginning work on the site to identify if badgers are using the site. The results of the survey shall be sent to the Airport's representative. If the pre-construction survey finds potential badger dens, they shall be inspected to determine whether they are occupied. The survey shall cover the entire property and shall examine both old and new dens. 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. If badgers are found in dens on the property between February and July, nursing young may be present. 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. Between July 1st and February 1st all potential badger dens shall be inspected to determine if badgers are present. During the winter badgers do not truly hibernate but are inactive and asleep in their dens for several days at a time. Because they can be torpid during the winter, they are vulnerable to disturbances that may collapse their dens before they rouse and emerge. Therefore, surveys shall be conducted for badger dens throughout the year. If badger dens are found on the property during the pre-construction survey, the CDFW wildlife biologist for the area shall be contacted to review current allowable management practices.

California red-legged frog. Biologists will brief all project personnel prior to participating in construction activities. At a minimum, the briefing will include a description of the project components and techniques, a description of the listed species occurring in the project area, and the general and specific measures and restrictions to protect the species during implementation of the project.

Prior to start of construction activities, exclusionary silt fencing shall be installed to adequately exclude California red-legged frog from the project area during active construction. These fences may be opened during periods of no-construction (e.g., on weekends) to prevent entrapment of California red-legged frog.

USFWS-approved biological monitor(s) shall be present on site during all construction activities occurring in potential CRLF habitat (marsh, riparian, or annual grassland habitat; see **Figure 3-4**).

Prior to the start of construction activities in potential CRLF habitat each day, biologist(s) will survey the work sites for CRLF, look under parked vehicles and heavy equipment frequently (especially every morning before work starts). California red-legged frogs captured during surveys or construction activities will be relocated to the nearest suitable habitat outside of the project area.

4.3 CLIMATE

As described in **Section 3.3**, GHG emissions such as carbon dioxide (CO_2) and/or carbon dioxide equivalents (CO_2e) trap heat in the earth's atmosphere and contribute to climate change, which is a global phenomenon.

4.3.1 Methodology and Thresholds of Significance

FAA Order 1050.1F has not identified any significance thresholds for aviation GHG emissions associated with Climate change, and there are currently no accepted methods of determining significance applicable to aviation projects given the small percentage of emissions they contribute. Therefore, information in this section is provided for disclosure purposes only.

4.3.2 Alternatives Evaluation

As described in **Section 2.2.2**, the Proposed Action would not differ from the No Action Alternative with respect to aircraft or vehicular operations and would not differ with respect to fuel consumption. Potential differences would be due solely to construction activity.

4.3.2.1 No Action Alternative

The FAA TAF projects aircraft activity levels to remain relatively stable through 2035, while the Master Plan forecast shows modest growth through 2025 (see **Appendix B**). Aviation emissions of GHGs would not change markedly over time. Surface traffic emissions would likely decrease slightly as vehicle fuel efficiency standards become increasingly stringent.

4.3.2.2 Proposed Action

Aviation and surface transportation GHG emissions would be the same as under the No Action Alternative. In the absence of any potential increase in aviation or related surface traffic activity, the only potential source of GHG emission would be related to construction activities.

Construction activities would temporarily increase GHG emissions compared to the No Action Alternative. The construction activity associated with the project elements would be of a relatively modest scale compared to other transportation and/or commercial development.

4.4 COASTAL RESOURCES

As described in **Section 3.4**, Oceano Airport is located in the State of California Coastal Zone. San Luis Obispo County has Local Coastal Plan Policies, which were certified by the California Coastal Commission and adopted by the San Luis Obispo County Board of Supervisors.

4.4.1 Methodology and Thresholds of Significance

FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures,* has not established significance criteria for coastal resources. FAA Order 1050.1F, Exhibit 4.1, identifies factors to consider in determining whether a Proposed Action would have a significant impact on coastal resources. Coastal resources factors identified in Exhibit 4.1 that are relevant to this Proposed Action include whether the Proposed Action would have the potential to:

- Be inconsistent with the relevant state coastal zone management plan(s).
- Impact a coastal barrier resources system unit (and the degree to which the resource would be impacted).
- Pose an impact to coral reef ecosystems (and the degree to which the ecosystem would be affected).
- Cause an unacceptable risk to human safety or property.
- Cause adverse impacts to the coastal environment that cannot be satisfactorily mitigated.

The San Luis Obispo CZLUO adopted by the County Board of Supervisors list the Airport as a permissible use, which includes "appurtenant areas used for airport buildings, aircraft operations and related facilities[23]." All of the elements of the Proposed Action are consistent with this definition.

Development in the coastal zone requires a CDP from the California Coastal Commission (the Coastal Commission). The Coastal Commission is responsible for reviewing the consistency of CDP applications with the policies of Chapter 3 of the Coastal Act (Public Resources Code Sections 30200-30265.5).37. The Coastal Commission has indicated that it retains jurisdiction of the area in which the Proposed Action would be developed. The CDP requires final design information that is not available at the current planning stage of project formulation. The CDP also requires completion of California Environmental Quality Act documentation, which is not currently available. The County will apply for the CDP when designs have developed to the point necessary to support the permitting process.

The Coastal Commission has identified situations in which sea level rise should be considered in the project analysis. According to the Coastal Commission, sea level rise should be considered if the project site is in or adjacent to an identified floodplain, or is close to a beach, estuary,

[23] Framework for Planning Coastal Zone; first adopted by the San Luis Obispo County Board of Supervisors March 1, 1988; Program Certified by the California Coastal Commission February 25, 1988; Revised November 2011

lagoon, or wetland[24]. The Airport meets these criteria and the following evaluation therefore considers the effects of sea level rise in assessing consistency with San Luis Obispo Coastal Plan Policies. The Coastal Commission has established the following steps in assessing the risks of sea level rise in the CDP process.

1. Establish the projected sea level rise range.
2. Determine how sea level rise impacts may constrain the project site.
3. Determine how the project may impact coastal resources over time, considering sea level rise.
4. Identify project alternatives to both avoid resource impacts and minimize risks to the project.
5. Finalize project design and submit permit application.

4.4.2 Alternatives Evaluation

Aircraft and surface vehicle activity would be the same for either alternative. The No Action and Proposed Action alternatives would differ only in that the Proposed Action would slightly increase the amount of impervious surface and would involve temporary construction activity. This Coastal resources analyses addresses the following factors.

1. Consistency with San Luis Obispo County Coastal Plan Policies and the corresponding CZLUO.
2. Risks to human safety or property.
3. Adverse impacts to the coastal environment that cannot be satisfactorily mitigated.

4.4.2.1 No Action Alternative

The Airport is a permitted use in the San Luis Obispo County Local Coastal Program.[25] Under the No Action Alternative, the Airport would continue to function as a permissible use, and the Airport's influence on coastal resources and exposure to risks from sea level rise would remain unchanged.

4.4.2.2 Proposed Action

As with the No Action Alternative, implementation of the elements of the Proposed Action would continue to be consistent with the San Luis Obispo County Coastal Plan Policies, and the corresponding CZLUO, and would comply with CDP requirements as described below.

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24 California Coastal Commission Sea Level Rise Policy Guidance, Chapter 6. Adopted August 12, 2015.

25 Coastal Zone Land Use Ordinance, Title 23 of the San Luis Obispo County Code; adopted by the San Luis Obispo County Board of Supervisors March 1, 1988; Program Certified by the California Coastal Commission October 7, 1986; Revised December 2014.

Consistency with the Relevant State Coastal Zone Management Plan

The San Luis Obispo CZLUO adopted by the County Board of Supervisors specifically identifies the Airport and "appurtenant areas used for airport buildings, aircraft operations and related facilities" as a permitted use. All of the elements of the Proposed Action are consistent with this definition. As described above, the Coastal Commission has established a five-step process for assessing the risks of sea level rise in the Coastal Zone. The following paragraphs assess the Proposed Action in accordance with that policy guidance.

- **Projected Sea Level Rise.** The Coastal Commission has defined projected sea level rise scenarios for consideration in the CDP process. The expected useful life of the proposed improvements is 20 years, or about the year 2040. For the year 2030, the Coastal Commission projects sea level rise to be from 2 to 12 inches. For the year 2050, the Coastal Commission projects sea level rise to be 5 to 24 inches[26]. The current base flood elevation for most of the Airport site is 14 feet (see **Figure 3-14**). Rising sea levels would likely increase the base flood elevation and increase the severity of storm surge or estuarine flooding as the levels of receiving waters rise.
- **Analysis of Site Constraints.** The lowest point of the runway and taxiway system is at northwest end of Runway 11/29, which is 12 feet above MSL[27]. If sea levels were to rise by as much as 24 inches, the Airport would remain 10 feet above sea level and the Airport's primary access roads would also remain above sea level. Under this sea level rise scenario, the severity of flood events would likely increase. In its CDP application for redundancy improvements at the South San Luis Obispo County Sanitation District Waste Water Treatment Plant (located immediately adjacent to the Airport) the Sanitation District identified a major flood event in 2010 as the benchmark for estimating increasing flooding risks with sea level rise.[28] The County estimated the maximum water level in that event to be 12.3 feet MSL. Assuming a sea level rise of 24 inches, a similar event might result in maximum water levels of 14.3 feet MSL. In such an event, flood waters would temporarily cover most of the Airport, which would be closed until it could be brought back into safe operating conditions. Aircraft would divert to other regional airports, and aircraft owners would remove aircraft to other airports, if possible, for the duration of the Airport closure.
- **Impact to Coastal Resources Considering Sea Level Rise.** The physical development associated with the Proposed Action would not materially affect the Airport's influence on coastal resources compared to the No Action Alternative. The additional impervious surface would have no measurable effect on coastal floodplain levels.
- **Consideration of Alternatives to Avoid Resource Impacts and Minimize Risks.** As described in **Section 2.1**, most of the improvements incorporated in the Proposed

26 California Coastal Commission Sea Level Rise Policy Guidance, Chapter 2. Adopted August 12, 2015.

27 Airport Layout Plan for Oceano County Airport, sheet 3 of 7, RS&H, May 2015.

28 California Coastal Commission, Coastal Development Permit Application 3-16-0233, South San Luis Obispo County Sanitation District, Revised Findings, May 10, 2017.

Action are fixed by function, meaning that they must be placed in specific locations relative to the existing airfield components. The locations of two project elements, the pollution control facility and the replacement electrical vault, could be altered if necessary, to avoid impacts; however, both facilities would remain above sea level under the projected seal level rise scenario. Under extreme flooding conditions, all potential locations for either facility would be subject to flooding; therefore, no feasible alternatives that would reduce or eliminate impacts exist.

- **Finalize Project Design.** A CDP will be required prior to construction. At this time, the County does not have the design information needed to support the CDP application. The County will further refine the conceptual designs for the proposed improvements shown in **Appendix A** to support the CDP application to the Coastal Commission.

Impacts to a Coastal Barrier Resources System Unit

There are no coastal barriers in the State of California.

Impacts to Coral Reef Ecosystems

There are no coral reefs in the State of California.

Risks to Human Safety or Property

The proposed runway and taxiway widening would not increase the number of people on the airport and would not increase the potential for property damage. As noted above, flood waters could temporarily cover most of the Airport in storm events. In such cases, the Airport would be closed until it could be brought back into safe operating conditions. Aircraft would likely be flown to other airports for the duration of the event.

Other Potential Impacts to Coastal Environmental Resources

The FAA Order 1050.1F Environmental Desk Reference identifies the following potential impacts to coastal environmental resources: loss of a natural flood control area; increased runoff, which could affect water quality in nearby coastal waters; increase in facility lighting due to a proposed project that could affect wildlife such nesting on nearby shorelines.

- **Loss of Natural Flood Control Area.** As described in **Section 4.13.2.2**, the entire Airport is located in the 100-year floodplain associated with the Pacific Ocean. Implementation of the Proposed Action will not increase the extent of the Airport that is in the 100-year floodplain.
- **Increased Run-off**. As described in **Section 4.13.2.2**, the Proposed Action would increase the impervious surface and associated runoff by 6.6 percent. Given the extent of the floodplain, the addition of impervious surfaces would have no effect on base flood elevations. Stormwater runoff would still comply with the Airport's NPDES permit. In addition, the proposed pollution control facility would reduce the amount contaminants

such as detergents and petroleum products in the Airport's outfalls and receiving waters compared to the No Action Alternative.

- **Increased Lighting**. As described in **Section 4.12.2.2**, the Proposed Action would include replacement of the runway lighting and replacement and additional taxiway lighting and the expansion of paved area associated with the runway and taxiways. To avoid affecting pilots' night vision, airfield lighting is low intensity. The proposed lighting improvements would not be visible from the shoreline and would not affect coastal resources.

Construction Impacts

Construction activity would not involve risks to human safety, or adversely affect the coastal environment. Construction impacts would be limited in scope and duration and occur in areas which local coastal plans have identified for airport use. Potential environmental impacts to the coastal environment are described under the various environmental resource categories in this EA. No construction impacts would be significant. Less than significant impacts can be further avoided or minimized by implementation of avoidance and minimization measures and BMPs. Given the small area and contained construction area, implementation of these practices would avoid off-Airport environmental impacts. Construction activity would not occur during storm surge conditions and would not expose workers or others to safety risks.

Physical Development and Operational Impacts

The Proposed Action would not differ from the No Action Alternative with respect to aircraft or surface vehicle activity and would therefore have no operational impacts to coastal resources. The elements of the Proposed Action would not increase the number of people on the airport and would not increase the potential for property damage. The 6.6 percent increase in impervious surface and associated increase in stormwater runoff would be accommodated by the Airport's existing drainage system, which would continue to comply with the Airport's NPDES permit. The proposed pollution control facility would reduce the amount contaminants such as detergents and petroleum products in the Airport's outfalls and receiving waters compared to the No Action Alternative.

Implementation of the Proposed Action would not result in a significant environmental impact. The Proposed Action would be consistent with Local Coastal Plans for the airport, would not, involve risks to human safety, and would not adversely affect coastal resources.

Potential Contribution to Cumulative Impacts

As described above, the Proposed Action would have to be consistent with Local Coastal Plans, would have no effect on human safety or property, and would not have adversely affect coastal resources. The Proposed Action would not contribute to cumulative impacts on coastal resources.

Mitigation, Avoidance, and Minimization Measures for the Proposed Action

As the impacts of the Proposed Action are not significant for Coastal Resources, no mitigation measures are required to reduce impacts to a not significant level. However, implementation of the mitigation, minimization and avoidance measures identified throughout this EA will further mitigate, avoid, and minimize impacts on coastal resources.

4.5 DEPARTMENT OF TRANSPORTATION ACT SECTION 4(F)

This section describes the significance thresholds and methodologies used to determine effects the Proposed Action would have on Section 4(f) resources compared to the No Action Alternative. As stated in **Section 3.5.1**, no park land obtained using the Land and Water Conservation Fund would be converted to non-recreational use as a result of any of the alternatives proposed in this EA; therefore, Section 6(f) lands are not discussed in this section.

4.5.1 Methodology and Thresholds of Significance

FAA Order 1050.1F provides guidance specific to airport projects to determine if physical or constructive use of a Section 4(f) resource would occur. The study areas were reviewed for any publicly owned park, recreational area, wildlife or waterfowl refuge, or historic site. An analysis to determine if any components of the Proposed Action would have a physical or constructive use of Section 4(f) resources was conducted.

FAA Order 1050.1F, Exhibit 4-1, describes the FAA's significance threshold for Section 4(f). The exhibit defines a significant impact as an action that "…involves more than a minimal physical use of a Section 4(f) resource or constitutes a 'constructive use' based on an FAA determination that the aviation project would substantially impair the Section 4(f) resource."

- Physical use: the action physically occupies and directly uses the Section 4(f) resource. The action's occupancy or direct control (via purchase) causes a change in the use of the Section 4(f) resource.
- Constructive use: the action indirectly uses a Section 4(f) resource by substantially impairing the resource's intended use, feature, or attributes.

4.5.2 Alternatives Evaluation

In this context, the No Action and Proposed Action alternatives would differ only with respect to temporary construction impacts and paving of about 0.72 acres of undeveloped land along the edges of the runways and taxiways.

4.5.2.1 No Action Alternative

Under No Action Alternative, the Airport would continue to operate as at present. The Airport's physical characteristics would not differ from existing conditions. According to the FAA TAF, aircraft activity levels will remain relatively stable through 2035, while the Master Plan forecast

shows modest growth through 2025 (see **Appendix B**). Noise associated with Airport operations would remain essentially unchanged from existing conditions.

4.5.2.2 Proposed Action

The Proposed Action would differ from the No Action Alternative in that the paved area associated with the runway and taxiways would increase slightly. Implementation of the Proposed Action including the widening of Runway 11-29, Taxiways A, A-1, A-2, A-3, and A-4, relocation of the segmented circle and wind cone, and installation of hold position signage, would have no effects on the nearby recreational areas identified in **Section 3.5**, nor on the historic properties, cultural resources, or other cultural resources identified in **Section 3.7**.

The cultural resources survey described in **Section 3.7** found no historic buildings on archaeological sites on Airport property that are on or eligible for listing on the NRHP. The nearest historic structure to the Airport listed in the NRHP is the Arroyo Grande Independent Order of Odd Fellows Hall, approximately 2 ¾ miles northeast of the project site. As described in further detail below the Proposed Action would not physically affect any Section 4(f) resource and would not substantially impair the use of any Section 4(f) resource.

Construction Impacts

All of the improvements included in the Proposed Action would be built on Airport property. Any construction staging areas or material laydown/storage areas would also be on Airport property. One non-historic building, an existing 840-square-foot building used as an office, would be demolished. No archaeological resources on or eligible for the NRHP are known on Airport property, so none would be affected by ground disturbing activities. Construction activity would not involve direct or indirect impacts to Section 4(f) resources.

Physical Development and Operational Impacts

The Proposed Action would not differ from the No Action Alternative with respect to aircraft or surface vehicle activity and would therefore have no operational impacts to off-Airport Section 4(f) resources. The Proposed Action would not alter the visual character of the Airport.

Potential Contribution to Cumulative Impacts

As the Proposed Action does not involve any physical use or constructive use of Section 4(f) resources, the Proposed Action would not contribute to potentially significant cumulative physical or constructive use of Section 4(f) or 6(f) resources when considered in combination with other past, present, or reasonably foreseeable future actions.

Mitigation, Avoidance, and Minimization Measures for the Proposed Action

Implementation of the Proposed Action would have no adverse effects to Section 4(f) resources and no mitigation is proposed. While not required to reduce impacts to a not significant level,

construction BMPs including minimizing engine idling when equipment is not in use and control of fugitive dust would reduce noise and air emissions to nearby recreational facilities during construction.

4.6 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

This section evaluates whether implementation of the Proposed Action or No Action Alternative will result in significant environmental impacts regarding hazardous materials and hazardous wastes, solid wastes, or pollution prevention efforts.

4.6.1 Methodology and Thresholds of Significance

FAA Order 1050.1F does not provide a significance threshold for hazardous materials, solid waste, and pollution prevention; however, it does identify the following factors to consider in evaluating the context and intensity of potential environmental impacts that could result in a significant environmental impact.

- Violation of applicable federal, state, or local laws or regulations regarding hazardous materials and/or solid waste management.
- Involvement of a contaminated site (including but not limited to a site listed on the National Priorities List).
- Production of an appreciably different quantity or type of hazardous waste.
- Generation of an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity. or
- Adversely affect human health and the environment.

4.6.2 Alternatives Evaluation

The No Action and Proposed Action alternatives would differ with respect to temporary construction impacts and slightly increased pavement areas which will need to be maintained under the Proposed Action, as described below.

4.6.2.1 No Action Alternative

Under No Action Alternative, the Airport would continue to operate as at present and no additional hazardous materials or solid waste would be generated at the Airport. The Airport's activity levels would not differ substantially from current levels and the ongoing storage, use, and disposal of hazardous materials such as petroleum products would continue to be subject to existing San Luis Obispo County Airport Department policies. The Airport would continue to generate solid waste at the same rates as at present.

4.6.2.2 Proposed Action

Under the Proposed Action, Airport activity levels would not differ from those of the No Action. The Proposed Action would differ from the No Action Alternative with respect to construction

activity and a slight increase in amount of airfield pavement that will need to be maintained in the future.

Construction Impacts

The proposed project site does not contain any known sources hazardous materials[29] and there are no indications that the project site could potentially contain previously undiscovered hazardous materials or hazardous wastes. Construction of the Proposed Action would require temporary storage and use of hazardous materials such as diesel fuels and oils that are necessary to operate construction equipment. Use of BMPs during construction will minimize the potential for hazardous materials to cause soil or water contamination. Oils, solvents, and paints used for construction would be consumed, stored, and recycled in accordance with local, State, and Federal laws. Therefore, the Proposed Action will not result in a significant impact on the environmental from exposure, use, or disposal of hazardous materials or hazardous wastes.

Physical Development and Operational Impacts

Operation of the Proposed Action and the associated types of uses of hazardous materials such as petroleum products would not differ from the types of usage under the No Action Alternative. Implementation of the Proposed Action would increase the amount of impervious surface on the Airport by about 6.6 percent, which could increase the amount of hazardous materials used for pavement maintenance, such as petroleum products, by a corresponding amount. The storage, use, and disposal of hazardous materials would continue to be subject to existing federal, state, and local regulations including San Luis Obispo County Airport Department policies.

Hazardous materials use and solid waste generation associated with operation of the Proposed Action would not differ from the waste generation under the No Action Alternative with the exception of a slight increase in materials used for pavement maintenance. Based on the increase in paved areas under the Proposed Action, the amount of increase would be approximately 6%-7% annually. This is not a significant increase in the amount of hazardous materials use or solid waste generation and is not a significant environmental impact.

Potential Contribution to Cumulative Impacts

implementation of the Proposed Action would have result in limited changes in the use of hazardous materials, generation of hazardous wastes, and generation of solid waste. Therefore, there would not be a significant cumulative impact on the environmental resulting from the use of hazardous materials, generation of hazardous wastes, disposal of solid waste, or obstacles to pollution prevention associated with these actions. Cumulative impacts considered in

[29] EPA NEPAssist website, November 19, 2018.

combination with other past, present, or reasonably foreseeable future actions are discussed further in **Section 4.14.**

Mitigation, Avoidance, and Minimization Measures

Implementation of the Proposed Action is not expected to encounter hazardous materials. While no mitigation is necessary to reduce impacts to a not significant level, implementation of the following construction BMPs will further avoid and minimize potential environmental impacts associated with hazardous materials and wastes, solid wastes, and pollution prevention.:

- storage of construction materials only in accordance with federal state, and local regulations
- Limiting vehicle fueling on impervious surfaces to contain any fuel spills for easier cleanup;
- Implementing the requirements of the, and implementing the provisions of, a NPDES Construction General Permit to minimize the potential for the use, storage, or disposal of hazardous materials, hazardous waste, or solid waste as discussed further in **Section 4.13.2.2.**

4.7 HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

This section describes the significance thresholds pertaining to historical, architectural, archeological, and cultural resources. This section also describes methodologies used to determine the potential effects the Proposed Action would have on those resources compared to the No Action Alternative.

4.7.1 Methodology and Thresholds of Significance

Historic, archeological, and cultural resources include districts, sites, buildings, structures, objects, landscapes, and Native American Traditional Cultural Properties that are on or eligible for listing on the NRHP. Such "NRHP properties" are locally, regionally, or nationally important due to their significant and respective roles in American history, prehistory, architecture, archeology, engineering, and culture. Regulations at 36 CFR Part 800 et seq. provide detailed instructions to federal agencies on how to assess and address effects on those historically significant properties.

To evaluate historic, architectural, archeological, and cultural resources within the project area, a cultural resources records review was conducted in December 2018 (see **Appendix F**). This review investigated the following two databases.

1. The Central California Information Center for cultural resources in the project area and previous studies and literature relevant to the project area.

2. The Sacred Lands File at the Native American Heritage Commission for known Native American tribal cultural resources at or near the proposed project area.

FAA Order 1050.1F does not provide a significance threshold for historical, architectural, archeological, and cultural resources; however, it does identify a factor to consider in evaluating the potential environmental impacts. Proposed actions (undertakings) that would result in a finding of adverse effect through the process outlined in Section 106 of the NHPA should be evaluated for potential significant impacts under NEPA.

4.7.2 Alternatives Evaluation

In this context, the No Action and Proposed Action alternatives would differ only with respect to temporary construction impacts and paving of about 0.72 acres of undeveloped land associated with the widening of the runway and taxiways, the relocation of the segmented circle and wind cone, the installation of the hold position signage, the demolition of the office / house that includes the electrical vault, the construction of a new electrical vault, and the installation of a pollution control facility (wash rack).

4.7.2.1 No Action Alternative

Under No Action Alternative, the Airport would continue to operate as at present and no additional development would occur. The Airport's physical and operational characteristics would not differ from existing conditions.

4.7.2.2 Proposed Action

The Proposed Action would differ from the No Action Alternative in that the paved area associated with the runway and taxiways would increase by 0.72 acres, or 6.6 percent. Implementation of the Proposed Action would have no effect on aircraft operations or activity levels compared to the No Action Alternative. The implementation of the Proposed Action would not affect historic properties or known cultural resources. The cultural resources survey described in **Section 3.7.2** concluded that the construction of the Proposed Action was unlikely to affect potentially significant archaeological resources. As noted in **Section 3.7.1**, the nearest historic structure listed in the NRHP is the Arroyo Grande Independent Order of Odd Fellows Hall, approximately 2 ¾ miles northeast of the project site. No structures on the Airport are listed in the NRHP; thus, the demolition of the office / house that includes the electric vault would have no effect on historic resources.

Construction Impacts

The records review described in **Section 3.7** did not identify any archaeological resources on or eligible for the NRHP in the areas directly affected by the proposed new pavement, Runway 11-29 widening, Taxiways A, A-1, A-2, A-3, and A-4 widening, segmented circle and wind cone relocation, hold position signage installation, and the relocated electrical vault. In addition, due to the past disturbances associated with the original construction of the airport, it is unlikely that

archaeological resources with sufficient remaining integrity to be listed on the NRHP are present on the Airport. The FAA has determined that a Section 106 finding of *No Historic Properties Affected* is applicable for the Proposed Undertaking pursuant to 36 CFR Section 800.4(d)(1) and has requested concurrence with that determination from the California State Historic Preservation Officer (SHPO) (see **Appendix F**).

Potential Contribution to Cumulative Impacts

As implementation of the Proposed Action would not result in any environmental impacts to historic properties as a result of the construction of the Proposed Action it would not contribute to cumulative impacts to historic resources. See **Section 4.14** for additional information.

Mitigation, Avoidance, and Minimization

While implementation of the Proposed Action would not have a significant impact on historic resources on or eligible for the NRHP, if unanticipated historic resources are encountered during construction of the project, the Airport would follow 36 CFR § 800.13 *Post-review discoveries,* and coordinate with the FAA, the SHPO, any Indian tribe that might attach religious or cultural significance to such resources. Any such resources found would be evaluated for their eligibility for the NRHP, and proposed actions identified to the SHPO and any tribe affected in accordance with 36 CFR § 800.13 (b) (3) to address potential adverse effects to such resources. In addition, all ground disturbing activities would be monitored by a cultural resource specialist from the Salinan Tribe.

4.8 LAND USE

This section evaluates whether implementation of the Proposed Action or No Action Alternative will result in significant environmental impacts regarding Land Use.

4.8.1 Methodology and Thresholds of Significance

FAA Order 1050.1F does not provide a significance threshold for significant environmental Land Use impacts, nor does it identify specific independent factors to consider for a determination of what is a significant impact to Land Use. The determination that significant impacts exist in the land use impact category is normally dependent on the significance of other impact categories. If the proposal would result in other impacts that have land use ramifications, for example, disruption of communities, relocation, and induced socioeconomic impacts, the impacts on land use are analyzed for that resource category and cross-referenced.

4.8.2 Alternatives Evaluation

As described **in Section 3.8**, the San Luis Bay Area Plan – Coastal designates the airport as Public Facilities. This designation is consistent with the function of the Airport. The Proposed Action would not involve off-Airport development or affect Airport activity compared to the No Action Alternative. The Proposed Action would therefore have no effect on off-Airport land use,

and the Airport would continue to be consistent with the San Luis Bay Area Plan. Therefore, no significant impact on land use would result from implementation of the Proposed Action or No Action Alternative.

Potential Contribution to Cumulative Impacts

As implementation of the No Action or Proposed Action alternative will not result in an environmental impact on land use, implementation of No Action or Proposed Action will also not contribute to a cumulative impact on land use.

Mitigation, Avoidance, and Minimization Measures for the Proposed Action

As the Proposed Action would not result in impacts on land use, no mitigation measures are required, and no mitigation, avoidance or minimization measures were identified.

4.9 NATURAL RESOURCES AND ENERGY SUPPLY

This section evaluates whether implementation of the Proposed Action or No Action Alternative will result in significant environmental impacts regarding Natural Resources and Energy Supplies.

4.9.1 Methodology and Thresholds of Significance

FAA Order 1050.1F does not provide a significance threshold for significant environmental impacts to Natural Resources or Energy Supplies. FAA Order 1050.1F identifies that a Proposed Action could have the potential to have a significant impact on natural resources or energy supplies if it had the potential to cause a demand that exceeded the available supply of those resources.

4.9.2 Alternatives Evaluation

The No Action and Proposed Action alternatives would differ with respect to temporary use of equipment and materials needed for construction of the Proposed Action. The Proposed Action would also slightly increase electrical demand to supply the runway and taxiway lighting, although these systems may be solar powered, which would reduce energy consumption.

4.9.2.1 No Action Alternative

Under the No Action Alternative, the Airport would continue to operate as at present. No construction materials would be used for new development and the Airport's energy consumption would not change.

4.9.2.2 Proposed Action

As noted above, the Proposed Action would differ from the No Action Alternative by increasing demand for construction materials and fuel for construction vehicles. Although the proposed

runway and taxiway lighting could slightly increase demand for electrical power, the installation of a new, more efficient electrical vault and possible use of solar power would reduce the amount of additional demand.

Construction Impacts

Construction of the major elements of the Proposed Action would require several months, which is typical of a relatively modest level of effort. Construction activities would require materials and fuels commonly associated with construction activities. These materials are not scarce and are readily available in the region. Therefore, construction activity would not result in a significant impact by causing demand to exceed available or future supplies of these resources, which include aviation and surface vehicle fuel, construction material, and electrical power.

Physical Development and Operational Impacts

Airport activity levels and the associated demand for fuel and other consumables would be the same as under the No Action Alternative. Although the proposed runway and taxiway edge lighting might increase the demand for electrical power, the use of reflectors and/or solar light emitting diode (LED) lights would reduce power consumption compared to conventional lighting. Therefore, implementation of the new facilities under the Proposed Action would not result in a significant impact by causing demand to exceed available or future supplies of natural resources and energy supplies such as aviation and surface vehicle fuel, construction materials, and electrical power.

Potential Contribution to Cumulative Impacts

The temporary increase in demand for fuel and construction materials would have no lasting effect on the supply of either. The minimal increase in demand for electrical power would not meaningfully affect the regional supply. These minimal effects would not contribute to significant cumulative impacts on natural resources or energy supply.

Mitigation, Avoidance, and Minimization Measures for the Proposed Action

Implementation of the Proposed Action would have minimal effects on the Airport's consumption of natural resources and energy. While no mitigation is warranted to reduce impacts to less than significant levels, use of reflectors and solar powered LED lighting would minimize energy consumption of the Proposed Action.

4.10 NOISE AND NOISE-COMPATIBLE LAND USE

As noted in **Section 3.10**, implementation of the Proposed Action would not lead to an increase in aircraft activity and would not alter flight patterns at the Airport. The aircraft noise environment and the Airport would be the same for the Proposed Action and the No Action

Alternative. The Proposed Action would differ from the No Action Alternative only with respect to construction noise, which would be temporary and localized.

4.10.1 Methodology and Thresholds of Significance

FAA Order 1050.1F, Exhibit 4-1 defines a significant noise impact as an action that would increase noise by the Day-Night Average Sound Level (DNL), or in California, the Community Noise Equivalent Level, (CNEL), by 1.5 decibels (dB) or more for a noise sensitive area that is exposed to noise at or above the CNEL 65 dB noise exposure level , or that will be exposed at or above the CNEL 65 dB level due to a CNEL 1.5 dB or greater increase, when compared to the No Action Alternative for the same timeframe.

The construction noise analysis applies estimates of noise levels for typical construction vehicles developed by the Federal Highway Administration[30] and accounts for the attenuation of noise over distance. The assumed attenuation does not reflect the effects of ground absorption or shielding and therefore likely overstates construction noise levels over the distance to nearby noise sensitive land uses.

4.10.2 Alternatives Evaluation

The potential for significant noise impacts under the No Action and Proposed Action alternatives are discussed below.

4.10.2.1 No Action Alternative

As the No Action Alternative does not change aircraft operations at the airport, there would be no change in aircraft noise under the No Action Alternative. Also, as described in **Section 3.10**, no noise impact analysis of aircraft noise is required at airports that have a limited number of aircraft operation. As there would be no construction under the No Action Alternative, no construction noise would occur. Surface traffic noise levels would not increase under the No Action Alternative.

4.10.2.2 Proposed Action

The noise impacts of the Proposed Action compared to the No Action Alternative would be limited to construction impacts, as described below.

Construction Impacts

Typical construction vehicle noise levels range from 70 to 95 dB at a distance of 50 feet from construction vehicles. Noise levels from point distances attenuate (decrease) by 6 dB per doubling distance, not including shielding effects of vegetation or structures. Widening the runway and taxiways would involve the most intensive construction activity. The closest

30 U.S. Department of Transportation, Federal Highway Administration, Construction Noise Handbook, https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm, accessed August 2017.

residential area to a runway or taxiway consists of a small row of residential development along Lakeside and Honolulu Avenues at a distance of about 100 feet from Taxiway A and another row of housing along Fountain Avenue at a distance of about 135 feet from the runway (see **Figure 4-2**). Maximum construction equipment noise levels at these homes would therefore be about 64 to 89 dB. These noise levels would not be continuous during the construction period and would not occur during the evening and nighttime hours when noise is considered to be most intrusive. The most extensive construction efforts, the taxiway and runway widening, would require two and three months of construction activity, respectively creating construction noise during that period. As the time-period of construction noise is temporary and limited, this is not a significant noise impact.

Physical Development and Operational Impacts

The Proposed Action would not affect aircraft activity levels, which would be the same as for the No Action Alternative. The Proposed Action would therefore have no operational noise impacts compared to the No Action Alternative and would not result in a significant noise impact.

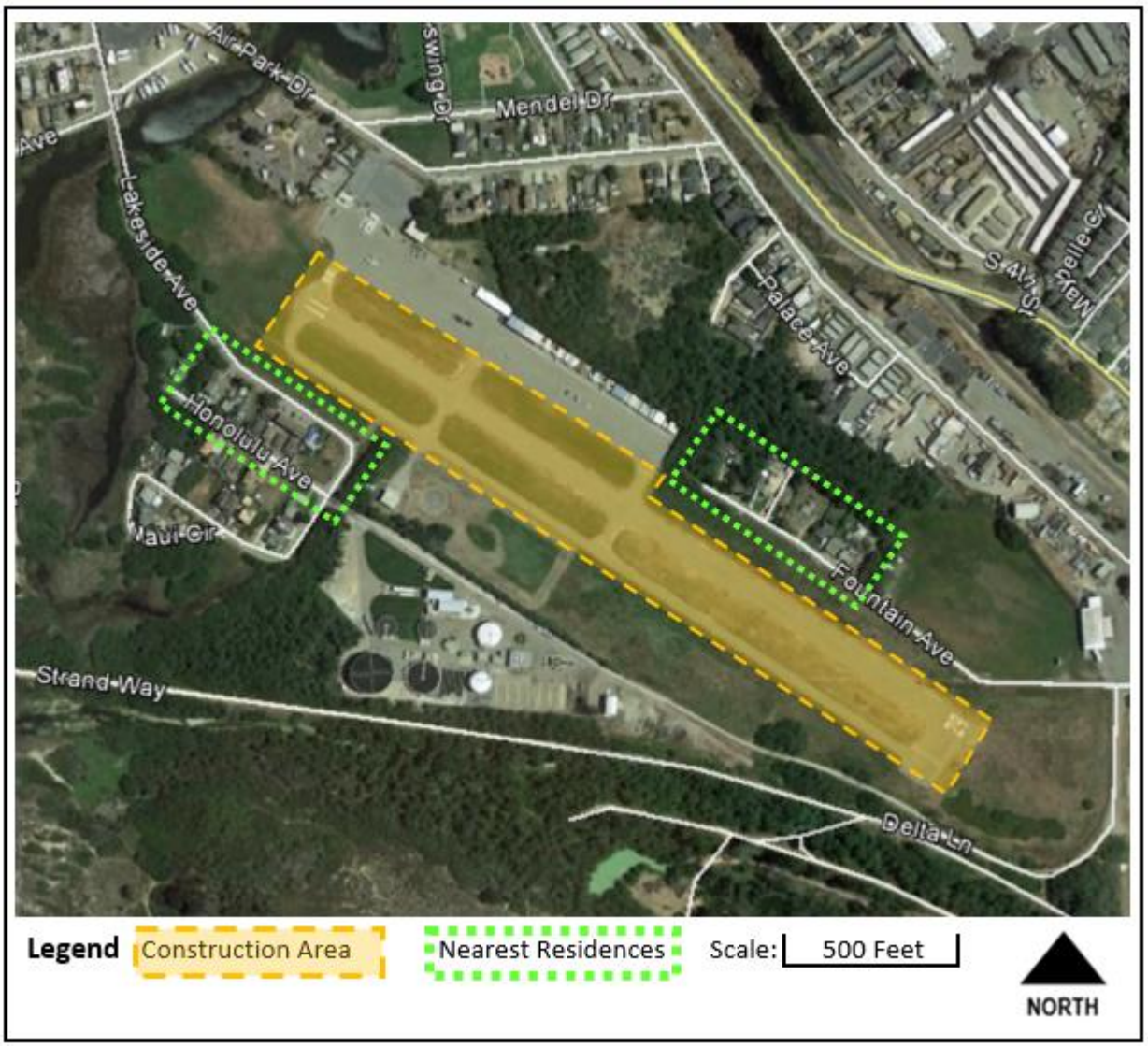
Potential Contribution to Cumulative Impacts

Construction noise impacts would be localized, intermittent, and of limited duration. Cumulative noise impacts could only occur if noise from another action or actions were to occur at the same time and in the same area as construction of the project elements. As the Proposed Action is occurring on the Airport, it is unlikely that non-Airport development activity would be near enough to contribute to cumulative noise impacts. The Airport does not anticipate other major construction activities occurring concurrently with construction of the project elements. In the absence of long-term noise impacts, the Proposed Action would not contribute to potentially significant cumulative impacts when considered in combination with other past, present, or reasonably foreseeable future actions.

Mitigation, Avoidance, and Minimization Measures for the Proposed Action

Implementation of the Proposed Action would have minimal noise impacts during construction and no mitigation is required to reduce noise from the project to a not significant level. While not required to reduce impacts to less than significant levels, construction BMPs such as not conducting construction during nighttime hours and minimizing engine idling when equipment is not in use, would minimize noise levels associated with construction of the Proposed Action.

Figure 4-2
NOISE SENSITIVE RECEPTORS



Source: Google Earth, November 2018

4.11 SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

This section evaluates whether implementation of the No Action or Proposed Action alternative would result in a significant environmental impact regarding socioeconomics, environmental justice, or children's environmental health and safety risks.

4.11.1 Methodology and Thresholds of Significance

The analysis in this EA, consistent with FAA requirements, considers the potential of the Proposed Action to have one or more of the following effects.

- Move people from their homes
- Move people from their businesses
- Divide or disrupt established communities
- Change surface transportation patterns of traffic levels
- Disrupt orderly, planned development
- Create a notable change in employment

The following sections describe the factors the FAA considers in determining whether implementation of the No Action or Proposed Action alternative would result environmental impacts or effects regarding socioeconomics, environmental justice, and children's environmental health and safety risks.

4.11.1.1 Socioeconomics

FAA Order 1050.1F does not provide a significance threshold for environmental impacts to socioeconomics. FAA Order 1050.1F does specify a number of factors to consider in evaluating whether a significant environmental impact on socioeconomics is present. Those factors to consider include the potential of the action to:

- Induce substantial economic growth in an area, either directly or indirectly (e.g., through establishing projects in an undeveloped area)
- Disrupt or divide the physical arrangement of an established community
- Cause extensive relocation when sufficient replacement housing is unavailable
- Cause extensive relocation of community businesses that would cause severe economic hardship for affected communities
- Disrupt local traffic patterns and substantially reduce the levels of service of roads serving an airport and its surrounding communities
- Produce a substantial change in the community tax base

4.11.1.2 Environmental Justice

FAA Order 1050.1F does not provide a significance threshold for environmental impacts that have a disproportionate environmental impact on low-income or minority communities. FAA Order 1050.1F does provide a number of factors to consider when evaluating whether an action has a disproportionately high and adverse impact to low-income or minority populations, due to the following considerations.

- Significant impacts in other environmental impact categories
- Impacts on the physical or natural environment that affect an environmental justice population in a way that the FAA determines are unique to the environmental justice population and significant to that population.

4.11.1.3 Children's Environmental Health and Environmental Safety Risks

FAA Order 1050.1F does not provide a significance threshold for environmental impacts that have a disproportionate impact to children's environmental health and safety risks. It does

provide a factor to consider in evaluating the context and intensity of potential environmental impacts. This is when the action would have the potential to lead to a disproportionate health or safety risk to children.

4.11.2 Alternatives Evaluation

The potential for implementation of the No Action and Proposed Action alternatives to result in significant socioeconomic impacts or disproportionate impacts on minority and low-income populations, and children, are discussed below.

4.11.2.1 No Action Alternative

Under the No Action Alternative, the County would not implement the Proposed Action. The County would continue to operate the Airport and serve forecast aviation demands. For these reasons, the No Action Alternative would have no environmental impact on socioeconomics. There would be no environmental impacts to minority or low-income populations under the No Action Alternative, and therefore no environmental justice impacts. The No Action Alternative would have no environmental impacts on children, and therefore not have the potential to produce a disproportion children's environmental health or safety risk.

4.11.2.2 Proposed Action

The following subsections describe the potential socioeconomic, environmental justice, and children's health and safety risks that could result from implementation of the Proposed Action. Operation of the Airport under the Proposed Action would require the same number of employees as under the No Action Alternative. After construction, the proposed improvements would have no effect with respect to socioeconomic conditions. Implementation of the Proposed Action would not result in environmental impacts that would extend beyond the Airport boundaries after construction.

The following analyses of construction impacts indicates that the Proposed Action would not significantly affect socioeconomics, environmental justice, or children's environmental health and safety risks, and would not result in significant cumulative impacts. Similarly, the minor nature of the impacts described in the following sections would not require mitigation.

Socioeconomics. Construction activity would temporarily employ construction workers, who would generate additional economic activity in the local area. The modest scale of the construction effort would only employ up to 10 construction workers at any one time, although the types of workers would change over time as the project entered different phases of construction. This relatively small economic impact would not materially change growth and development patterns in the area surrounding the Airport and would not result in a significant environmental impact on socioeconomics.

Population. The construction of the Proposed Action could cause the short-term employment of construction workers. Because construction activity would be temporary, estimated to be

several months in duration, workers would not likely relocate to the area permanently. Construction activity would not cause a shift in population growth or change population growth patterns. Implementation of the Proposed Action would not result in a significant impact on the local population.

Housing. The Proposed Action is not anticipated to result in an increase in demand for housing. As discussed under the *Population* section above, workers are unlikely to relocate for the temporary short-term construction jobs required to complete the Proposed Action. It is possible that some workers would seek temporary lodging in the area, which might increase the demand for hotel rooms, recreational vehicle sites, or other temporary lodgings. However, this limited and temporary demand would not substantially alter the long-term demand for housing and not result in a significant impact on housing.

Labor Force and Revenue. Construction employment is by nature temporary; construction workers routinely move on to other projects upon completion of their current assignments. Construction of the project elements would not require an exceptional number of workers. This project would represent one in a series of projects for the pool of construction workers in San Luis Obispo County and the surrounding areas. In addition, the Proposed Action would not change the number of employees at the Airport or otherwise affect the area's labor force. The Proposed Action would not require the relocation of any businesses and would not decrease the employment opportunities or local revenues. Therefore, implementation of the Proposed Action would not result in significant impact on the size of the local labor force or change in local socioeconomic activity.

Surface Transportation. The Proposed Action would not affect the number of employees or the number of operations and enplanements at the Airport compared to the No Action Alternative and would not require the closure of any roadways. Construction vehicles would travel on local roads including Air Park Drive, Railroad Street, Delta Lane, and Lakeside Avenue to access the Airport. Potential traffic-related effects from construction would be temporary, lasting only as long as construction of the Proposed Action. Construction-related traffic would likely occur before or after peak traffic times and would not likely reduce the level of service or roadways around the Airport and therefore not have a significant impact on surface transportation.

Environmental Justice. Implementation of the Proposed Action would occur on Airport property, would have minimal off-Airport effects, and would not require the relocation of residents or businesses. In the absence of permanent off-Airport impacts, implementation of the Proposed Action would not disproportionately affect minority of low-income populations in the vicinity of the Airport, and not result in a significant impact on minority or low-income populations.

Children's Environmental Health and Safety Risks. Implementation of the Proposed Action would not significantly affect surrounding communities and would not increase exposure of

environmental contaminants to children in the surrounding community. Therefore, implementation of the Proposed Action would not result in a significant environmental impact or environmental health and safety risk to children.

4.12 VISUAL EFFECTS

This section evaluates whether implementation of the No Action or Proposed Action alternative would result in a significant environmental impact regarding light emissions or visual resources.

4.12.1 Methodology and Thresholds of Significance

The Proposed Action would not substantially alter the appearance of the Airport. As noted earlier, the Proposed Action would increase the amount of paved area on the airport by 6.6 percent and all of the additional pavement would be in the same configuration as the current runway and taxiway system. From any off-Airport viewpoint, there would be no visible change in the Airport's appearance. The Proposed Action would not introduce new light sources that could cause annoyance in surrounding areas.

FAA Order 1050.1F does not provide a significance threshold for visual effects; however, it does provide the factors described below to consider in determining whether light emissions from a Proposed Action, or changes in visual resources or visual character associated with a Proposed Action, could result in a significant impact.

4.12.1.1 Light Emissions

FAA Order 1050.1F states that factors to consider in making a determination as to whether light emissions from the No-Action Alternative or Proposed Action would produce a significant environmental impact include the degree to which the action would have the potential to:

- Create annoyance or interfere with normal activities from light emissions; and
- Affect the visual character of the area due to the light emissions, including the importance, uniqueness, and aesthetic value of the affected visual resources.

4.12.1.2 Visual Resources/Visual Character

FAA Order 1050.1F states that factors to consider in making a determination as to whether the No-Action Alternative or Proposed Action would affect the visual resources or visual character of an area in a manner that would result in a significant environmental impact include the degree to which the action would have the potential to:

- Affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources
- Contrast with the visual resources and/or visual character in the study area; and
- Block or obstruct the views of visual resources, including whether these resources would still be viewable from other locations.

Potential aesthetic effects of an action are generally assessed to the extent that the development contrasts with the environmental setting and whether a jurisdictional agency considers this contrast objectionable. Effects may also include those resulting from actions that may have both beneficial and detrimental effects.

4.12.2 Alternatives Evaluation

The Proposed Action would add taxiway lighting that would not be present under the No Action Alternative. The Proposed Action would slightly alter the appearance of the Airport by adding approximately 0.72 acres of pavement along the edges of the existing runways and taxiways, an increase of about 6.6 percent, and the addition of taxiway lighting.

4.12.2.1 No Action Alternative

Under No Action Alternative, the Airport would continue to operate as at present. The Airport's physical and visual characteristics would be unchanged. There would be no significant impact from additional light emissions, or changes in visual resources or visual character of the Airport.

4.12.2.2 Proposed Action

The Proposed Action would include replacement of the runway lighting and replacement and additional taxiway lighting and the expansion of paved area associated with the runway and taxiways. To avoid affecting pilots' night vision, taxiway lights are relatively low intensity. In addition, taxiway lights are placed low to the ground, making them difficult to see from areas outside to the Airport. The limited additional light emissions from the airport related to the replacement of runway lighting and the replacement and installation of new taxiway lighting would not result in a significant impact on the environment.

The additional airfield pavement constructed as part of the Proposed Action would be similar in appearance to existing pavements and would not contrast with the existing visual features of the airport or alter the visual character of the Airport. The relocated segmented circle and wind cone, additional hold position signage, electrical vault, and pollution control facility would all have a visual character consistent with the existing Airport and not contrast with the existing Airport. The additional electrical lines would primarily be located underground, and not be visible once installed. In most cases, the new pavement and facilities constructed as part of the Proposed Action would not be visible from outside of the Airport. Therefore, implementation of the Proposed Action will not result in a significant environmental impact on the visual resources or visual character of the Airport.

As light emissions from the Proposed Action will be minimal, and the components of the Proposed Action are consistent with the visual resources and visual character of existing Airport, the Proposed Action would not contribute to any cumulative impacts regarding light emissions, visual resources, or visual character, of the Airport or the surrounding area.

4.13 WATER RESOURCES

This section evaluates the potential effects of the Proposed Action compared to the No Action Alternative with respect to wetlands, floodplains, surface water, and groundwater. There are no Wild and Scenic rivers in the project study area; therefore, this section does not discuss that water-related resource.

The potential effects of the Proposed Action differ with respect to each of the remaining water-related resources; the following sections therefore describe the significance thresholds used to determine potential effects and the analysis of potential impacts for each resource individually.

4.13.1 Wetlands

This analysis includes wetlands impacts of the Proposed Action compared to the No Action Alternative.

4.13.1.1 Thresholds of Significance

FAA Order 1050.1F, Exhibit 4-1, defines the FAA's significance threshold for wetlands as follows.

The action would:

1. *Adversely affect a wetland's function to protect the quality or quantity municipal water supplies, including surface waters and sole source and other aquifers;*
2. *Substantially alter the hydrology needed to sustain the affected wetland system's values and function or those of a wetland to which it is connected;*
3. *Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare (the term welfare includes cultural, recreational, and scientific resources or property important to the public);*
4. *Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands;*
5. *Promote development of secondary activities or services that would cause the circumstances listed above to occur; or*
6. *Be inconsistent with applicable state wetland strategies.*

4.13.1.2 Alternatives Evaluation

With respect to wetlands impacts, the No Action and Proposed Action alternatives would differ in that the No Action Alternative would have no impacts on wetlands and implementation of the Proposed Action would require the permanent loss of approximately up to 0.02 acres of wetlands, and temporary construction impacts that would affect approximately 0.92 acres of wetlands.

No Action Alternative

Under the No Action Alternative, the elements of the Proposed Action would not be developed, and there would be no impact on wetlands on the Airport. Wetland areas in the vicinity of the airfield pavements would continue to be regularly mowed and maintained to reduce potential wildlife hazards.

Proposed Action

The Proposed Action would permanently remove up to 0.02 acres of Emergent Palustrine wetlands, in wetland features identified as Area F and Area G in **Table 4.2** and shown in **Figure 4-3**. EO 11990, Protection of Wetlands, and Department of Transportation Order 5660.1A Preservation of the Nation's Wetlands state that federal actions should avoid and minimize adverse impacts to wetlands where practicable. This wetland impact cannot be avoided because of the placement of the segmented circle and wind cone. This permanent loss of up to 0.02 acres of wetlands is not of sufficient magnitude to produce an environmental impact that would exceed the threshold of significant wetland impacts identified in FAA Order 1050.1F described in **Section 4.13.1.1**. **Table 4-2** tabulates the results of the delineation of on-Airport wetlands and the project related impacts to those wetlands, see **Figure 4-3** for the locations of these wetlands and potential impacts.

Construction Impacts. Construction activity around the pavement projects and trenching for airfield lighting cables could temporarily affect wetlands. Construction vehicle activity outside of new widened pavement and shoulder areas could temporarily crush vegetation to 0.90 acres of Emergent Palustrine wetlands[31] assuming that construction vehicles may operate as far as 50 feet beyond the area of the expanded pavement and shoulders (see **Figure 4-3**). In addition, up to 0.12 acres of wetlands would be temporarily affected by trenching for electrical cables connecting the lighting system, rotating beacon, segmented circle, and Automated Weather Observing System through the new electrical vault to the existing power supply (see **Appendix A**).

The temporary wetland impacts of the Proposed Action include the temporary crushing of wetland vegetation and trenching through wetlands for electrical cables could amount to as much as 0.90 acres assuming that construction vehicles operated across the entire 50 foot "buffer" area. As these impacts will only result in temporary wetland impacts, they will not exceed the significance threshold for wetland impacts identified in FAA Order 1050.1F and not result in a significant impact on wetlands.

[31] Assumes that construction vehicle activity might extend beyond the pavement and shoulder areas in the course of construction.

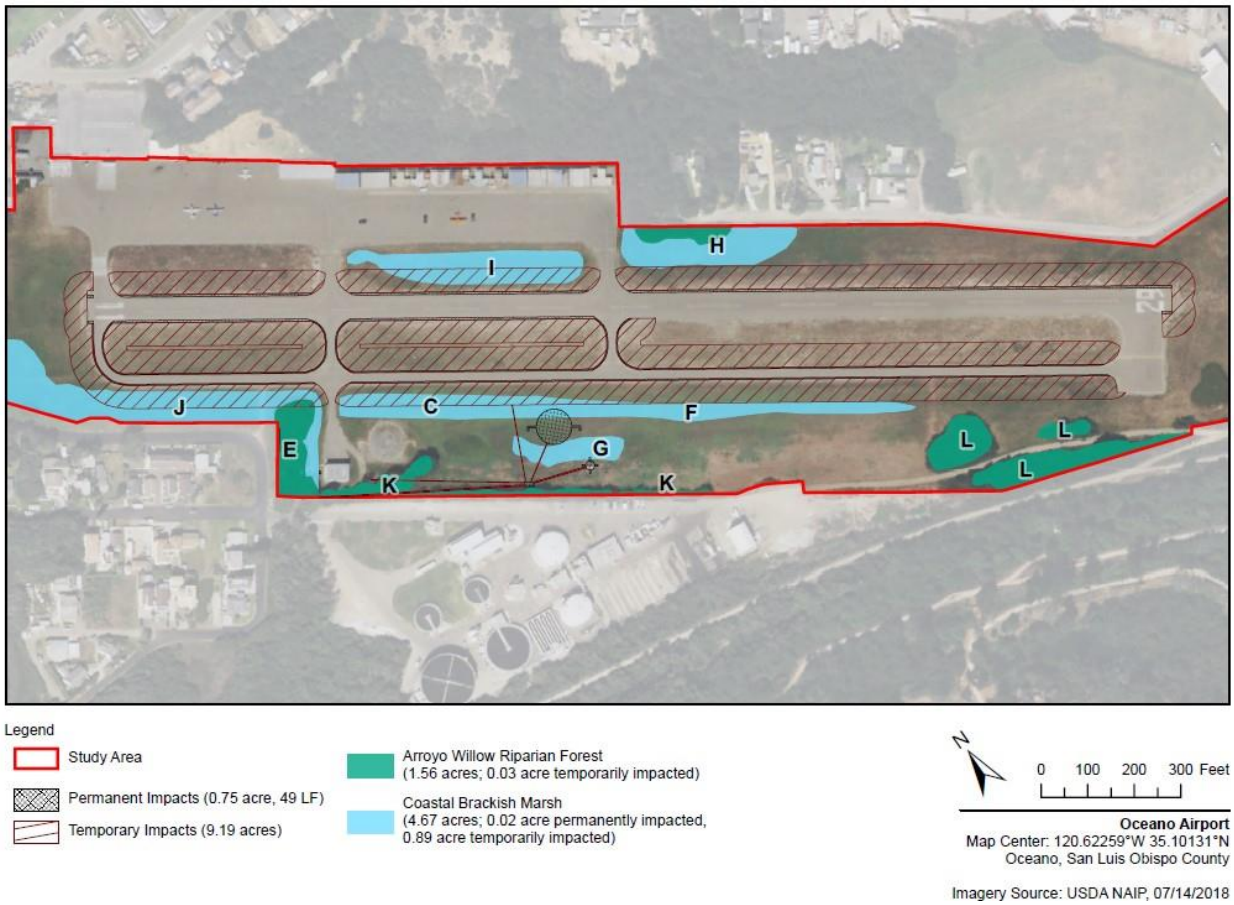
Table 4-2
WETLAND IMPACTS

Wetland Features			Permanent Impacts	Temporary Impacts	
				50-foot Buffer Impacts [1]	Cable Trenching Impacts[2]
ID	Type	Acres	Acres	Acres	Acres
A	Emergent Palustrine	0.83	0.00	0.00	0.00
B	Emergent Palustrine	0.10	0.00	0.00	0.00
C	Emergent Palustrine	0.18	0.00	0.06	0.00
D	Scrub-shrub, Emergent Palustrine	0.24	0.00	0.00	0.00
E	Scrub-shrub, Palustrine	0.33	0.00	0.02	0.00
F	Emergent Palustrine	0.79	0.01	0.19	0.00
G	Emergent Palustrine	0.22	0.01	0.00	0.00
H	Scrub-shrub, Emergent Palustrine	0.64	0.00	0.00	0.00
I	Emergent Palustrine	0.64	0.00	0.27	0.00
J	Emergent Palustrine	1.26	0.00	0.36	0.00
K	Scrub-shrub, Palustrine	0.31	0.00	0.00	0.12
L	Scrub-shrub, Palustrine	0.70	0.00	0.00	0.00
Totals		**6.24**	**0.02**	**0.90**	**0.12**

Notes: 1. Buffer from edge of existing pavement; impacts do not include pavement expansion.
2. Trenches assumed to be 15 feet in width.

Source: Althouse and Meade, Inc Biological and Environmental Services, May 2020

Figure 4-3
Wetland Impacts



Source: Althouse and Meade, Inc. Biological and Environmental Services, May 2020

Physical Development. As shown in **Table 4-2** and **Figure 4-3**, physical development of the Proposed Action would require permanently filling 0.02 acres of wetlands. The minimal loss of wetland functions and values would not materially affect surrounding surface waters or aquifers; rather, the proposed installation of the aircraft wash rack would reduce pollutants in receiving waters. Similarly, the 6.6 percent increase in impervious surface would not substantially alter the hydrology of the Airport and surrounding waters. The minimal loss of wetlands and increase in impervious surfaces would have no measurable effect on public health, safety, or welfare. The Proposed Action would have no material effect on the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands.

Potential Contribution to Cumulative Impacts. The extremely small impact described above does not represent a significant contribution to cumulative wetlands impact. To cumulatively exceed the thresholds of significance described in **Section 4.13.1.1**, other past, present, or reasonably foreseeable future actions would need to involve wetlands impacts orders of magnitude greater than those of the Proposed Action.

Mitigation, Avoidance, and Minimization Measures. While implementation of the Proposed Action would not result in significant impacts to wetlands, the County will be required to obtain an authorization in accordance with Section 404 of the CWA, and a CDP under the California Coastal Act. The County will apply for a Nationwide Permit authorization from the Army Corps of Engineers under Section 404 of the CWA to address CWA compliance requirements. The County will also apply for a CDP as described in **Section 4.4**.

The Army Corps of Engineers and the California Coastal Commission are likely to require wetland mitigation to offset the impacts of the proposed project. Prior County permitting experience with the California Coastal Commission is that the Commission typically required a 3:1 mitigation ratio for permanent wetland impacts, and a 1:1 mitigation ratio for temporary wetland impacts. If these wetland mitigation ratios are required, the total wetland mitigation requirement would be about one acre.

If mitigation is required, a wetland mitigation plan will be prepared. A wetland mitigation plan could include the creation and enhancement of habitat similar to the affected habitat, and/or appropriate restoration activities such as planting local native species, correcting bank stabilization issues, and providing habitat enhancements. The mitigation plan will be reviewed and approved by the County and other jurisdictional agencies, including the California Department of Fish and Wildlife (CDFW), USFWS, U.S. Army Corps of Engineers, Regional Water Quality Control Board, and Coastal Commission.

The Army Corps of Engineers CWA compensatory mitigation regulations at 33 CFR § 332.3 (b)(1) state that compensatory wetland mitigation projects should not be located where they will increase the risks to aviation by attracting wildlife to areas where aircraft-wildlife strikes may occur (e.g., near airports). FAA AC 150/5200-33B *Hazardous Wildlife Attractants on and Near* Airports, provides recommended separation distances between airports and wildlife attractants, including a general recommendation that wildlife attractants be located at least 5,000 feet from airports such as Oceano, which serve piston-powered aircraft. To limit the introduction of potential wildlife hazard attractants on the Airport, the mitigation plan will identify off-Airport opportunities to mitigate the impacts to brackish coastal marsh habitat. These off-Airport opportunities could be in the Arroyo Grande Creek Watershed, which is considered to be threatened by the conversion to non-wetland use. As an alternative, the County may seek to purchase wetland bank credits if a wetlands bank acceptable to jurisdictional agencies is available.

Implementation of any of the compensatory wetland mitigation measures described above would further reduce the environmental impact of the Proposed Action on wetlands.

4.13.2 Floodplains

This analysis includes potential floodplain impacts of the Proposed Action compared to the No Action Alternative.

4.13.2.1 Threshold of Significance

FAA Order 1050.1F, Exhibit 4-1 defines the FAA's significance threshold for floodplains as follows. "The action would cause notable adverse impacts on natural and beneficial floodplain values." Department of Transportation Order 5650.2 *Floodplain Management and Protection,* which implements EO 11998 *Floodplain Management,* defines natural and beneficial floodplain values as including, but not limited to:

1. Natural moderation of floods
2. Water quality maintenance
3. Groundwater recharge
4. Fish, wildlife, and plant habitat
5. Open space,
6. Natura beauty
7. Scientific study
8. Outdoor recreation
9. Agriculture
10. Aquaculture
11. Forestry

Of the 11 natural and beneficial floodplain values identified in Department of Transportation Order 5650.2, only three, natural moderation of floods, water quality maintenance, and fish, wildlife, and plant habitat have the potential to be present at the Airport.

4.13.2.2 Alternatives Evaluation

Although the entire Airport is located in the 100-year floodplain, as shown in **Figure 3-14**, implementation of the Proposed Action would not cause notable adverse impacts on natural and beneficial floodplain values. The 100-year floodplain in which the Airport is located is associated with the Pacific Ocean and the additional impervious surface that would result as part of the Proposed Action would have no effect on base flood elevations. The project incorporated in the Proposed Action would not diminish the natural and beneficial floodplain values present at the Airport.

No Action Alternative

Under the No Action Alternative, the elements of the Proposed Action would not be developed, and the Airport's effects on floodplains would not change from existing conditions. The Airport would continue to be subject to periodic flooding.

Proposed Action

As explained in more detail below, the Proposed Action would permanently increase the impervious surface of the Airport by approximately 0.75 acres, or 6.6 percent, compared to the No Action Alternative. This floodplain impact cannot be avoided because the entire Airport is within the 100-year floodplain. Thus, the runway and taxiway cannot be widened without

converting a portion of the 100-year floodplain to an impervious surface. However, the permanent increase in impervious surfaces of approximately 0.75 acres, or 6.6 percent of airport property, is not of sufficient magnitude to produce an environmental impact that would significantly diminish natural and beneficial floodplain values present at the Airport including moderation of floods, water quality maintenance, and fish, wildlife, and plant habitat found on the Airport.

Construction Impacts. Construction activity would be temporary and would have no lasting effect on the floodplain.

Physical Development. As noted above, the proposed runway and taxiway widening would add 0.75 acres of impervious surface, which is a 6.6 percent increase in the current impervious surface area at the Airport (see **Appendix A**). The projects included in the Proposed Action consists of airfield paving, visual navigation aids and supporting electrical service. The floodplain encompassing the Airport is influenced by Arroyo Grande Creek, Meadow Creek, and the Pacific Ocean as shown in **Figure 3-14**. Given the size of this floodplain, the addition of 0.75 acres of impervious surface would have no effect on the 100-year base flood elevations. As noted in **Section 4.2.2.2**, drainage patterns would remain the same and the existing stormwater drainage system would continue to accommodate stormwater runoff from the Airport's impervious surfaces. Further study in the design phase of project development will determine if improvements to the Airport drainage system would be required to reduce the potential for localized on-Airport ponding. These improvements would include strategies for mitigating increase stormwater runoff from smaller sized storms and would be made in compliance with regional flood control and post-construction stormwater requirements.

A discussion of the Proposed Action's effect on the natural and beneficial floodplain values of natural moderation of floods, water quality maintenance, and fish, wildlife, and plant habitat follows.

1. Natural moderation of floods. As noted above, implementation of the Proposed Action would have no effect on base flood elevations, which are influenced by Arroyo Grande Creek and the Pacific Ocean.

2. Water quality maintenance. As described **in Section 4.2.2.2**, water quality at the Airport's outfalls must continue to meet the requirements of the Airport's NPDES permit. In addition, the pollution control facility will slightly enhance water quality in the receiving waters by providing collection and treatment of water used for washing aircraft.

3. Fish, wildlife, and plant habitat. As described in **Section 4.2**, the Airport would continue to meet the water quality standards consistent with the terms of its current NPDES permit and will therefore have very limited potential to adversely affect water oriented biological resources.

EO 11998, Floodplain Management, requires federal agencies to: (1) consider alternatives to avoid adverse effects and incompatible development in the floodplains; (2) design or modify its action in order to minimize potential harm to or within the floodplain; and (3) prepare and circulate a notice containing an explanation of why the action is proposed to be located in a floodplain.

- **Alternatives to avoid effects.** As noted in **Chapter 2**, meeting the purpose and need for the Proposed Action would require development on the Airport, and as the Airport is entirely within the floodplain, any alternative would necessarily be located in the floodplain.
- **Design modifications to minimize potential harm.** Given the size of the floodplain, the proposed increase in impervious surfaces would not increase the base flood elevation. As noted above, further study in the design phase of project development will determine if improvements to the Airport drainage system would be required to reduce the potential for localized on-Airport ponding.
- **Notice.** Consistent with the requirements EO 11998, the notice of the public hearing for the EA will include: (1) an explanation of why the action is proposed to be located in a floodplain; (2) a statement indicating whether the action conforms to applicable state or local floodplain protection standards; and (3) a list of the alternatives considered.

Potential Contribution to Cumulative Impacts. Implementation of the Proposed Action would have no effect on the base flood elevation. The additional pavement and aircraft wash rack would not displace floodwaters. The proposed electrical vault would replace an existing facility to be demolished and will likely be placed above grade. Given the size of the floodplain encompassing the Airport, the small increase in impervious surfaces and associated stormwater runoff would have no effect on base flood elevations. For these reasons, the Proposed Action would not alter the natural moderation of floods. The additional impervious surface would not increase the volume of pollutants entering the receiving surface waters, and installation of the proposed aircraft wash rack would enhance surface water quality, and fish, wildlife, and plant habitat. While the increase in imperious surface would reduce the amount of infiltration on the Airport itself, the discharge to receiving waters would continue to infiltrate into the groundwater and, as noted above, the Proposed Action would enhance water quality in these surface waters. In the absence of any measurable effect on the floodplain and its values, implementation of the Proposed Action could not contribute to potentially significant cumulative impacts when considered in combination with other past, present, or reasonably foreseeable future actions. See **Section 4.14** for additional information.

Mitigation, Avoidance, and Minimization. As implementation of the Proposed Action will have no significant impacts to natural or beneficial floodplain values, no mitigation is required. Potential best management practices could be incorporated into final design to address the increase in runoff volume and any changes in water quality. No additional measures have been

identified to further minimize or avoid the minor impacts to the floodplain associated with implementation of the Proposed Action. As noted in **Section 4.2**, the Airport would continue to meet the water quality standards consistent with the terms of its current NPDES permit and will therefore have very limited potential to adversely affect water oriented biological resources.

4.13.3 Surface Waters

This analysis compares the potential surface water impacts of the Proposed Action to the No Action Alternative.

4.13.3.1 Thresholds of Significance

FAA Order 1050.1F, Exhibit 4-1 defines the FAA's significance threshold for surface waters as follows.

The action would:

1. *Exceed water quality standards established by Federal, state, local, and tribal regulatory agencies; or*
2. *Contaminate public drinking water supply such that public health may be adversely affected.*

4.13.3.2 Alternatives Evaluation

The additional 0.72 acres of impervious surface would increase the amount of impervious surface and associated stormwater runoff by 6.6 percent[32]. The Airport's existing stormwater drainage system would accommodate the additional runoff. As described in more detail below, this minor increase in stormwater runoff would not result in exceedances of water quality standards established by Federal, state, local, and tribal regulatory agencies, or result in contamination of public drinking water supplies such that public health may be adversely affected. The Proposed Action would not increase pollutants in runoff because no increase in pollution generating activity such as the use of fuels would result; implementation of the Proposed Action would enhance water quality compared to the No Action Alternative by installing a pollution control facility (wash rack) that would reduce the discharge of oils and detergents associated with aircraft washing into receiving waters including Oceano Lagoon.

No Action Alternative

Under the No Action Alternative, the elements of the Proposed Action would not be developed, and the Airport's effects on surface waters would not differ from existing conditions. The Airport's drainage basins, drainage infrastructure, and outfalls would continue to discharge to the surrounding receiving waters; notably the Oceano Lagoon and Arroyo Grande Creek, as

32 Based on existing impervious surface calculated in the Oceano County Airport Drainage Study, RS&H 2013 and the areas of new paving documented in Appendix A.

shown in **Figure 3-15**. Aircraft washing would continue to take place on the ramp area adjacent to the aircraft hangars and no treatment of aircraft washing effluent would be provided.

Proposed Action

Drainage patterns would remain the same and the existing stormwater drainage system would continue to accommodate stormwater runoff from the Airport's impervious surfaces. Further study in the design phase would determine if improvements to the Airport drainage system would be required. Water quality at the Airport's outfalls would be required to continue complying with the Airport's existing NPDES permit.

The Proposed Action would increase the amount of impervious surface and associated stormwater runoff by about 0.75 acre (6.6 percent) of airport property. The Proposed Action would also include the installation of a pollution control facility, or aircraft wash rack, that would reduce the discharge of oils and detergents associated with aircraft washing into receiving waters, notably the Oceano Lagoon.

Construction Impacts. Construction would involve about 0.72 acres of permanent ground disturbance, and 3.49 acres of temporary disturbance, associated with the runway and taxiway widening (see **Table 4-1** and **Figure 4-1**). The trenching for the electrical cables connecting the proposed electrical vault to the taxiway system, rotating beacon, and AWOS would add about 1.2 acres of temporary ground disturbance, resulting in a total of 4.69 acres of ground disturbance. The County would be required to obtain a NPDES Construction General Permit because construction activities would disturb more than an acre of land.

Physical Development Impacts. With the installation of the pollution control facility (aircraft wash rack), effluent from aircraft washing would be piped to the South San Luis Obispo County Sanitation District wastewater treatment facility rather than discharging to the Oceano Lagoon. **Appendix A** shows that proposed connection to the South San Luis Obispo County Sanitation District sewer line. Water not associated with aircraft washing would continue to discharge through the existing stormwater drainage system to the existing permitted stormwater outfall. Although the slight increase in impervious surface would also increase stormwater flows, the volume of pollutants reaching the receiving waters would not increase because the activities that generate contaminants, primarily aircraft operations and maintenance, would not increase as a result of the Proposed Action.

Potential Contribution to Cumulative Impacts. Implementation of the Proposed Action would permanently increase impervious surfaces at the Airport by 0.72 acres. This minor increase in impervious surfaces would result in a slight increase in the volume of stormwater entering the Airport stormwater system but would not introduce any new contaminants into the Airport's existing stormwater effluent compared to the No Action Alternative. In addition, installation of the proposed pollution control facility would enhance water quality in receiving waters. This small increase in stormwater volume being conveyed to surface waters would not

result in a significant cumulative impact on stormwater quality. This additional stormwater would not contribute to any exceedance of water quality standards established by Federal, state, local, and tribal regulatory agencies; or result in contamination of public drinking water supply such that public health may be adversely affected when considered in combination with other past, present, or reasonably foreseeable future actions.

Mitigation, Avoidance, Minimization. As noted above the County will obtain a NPDES Construction General Permit which will require a Stormwater Pollution Prevention Plan that would limit the potential for contamination of surrounding surface waters. As noted in **Section 4.2**, the Airport would continue to meet the water quality standards consistent with the terms of its current NPDES permit and will therefore have very limited potential to adversely affect water oriented biological resources.

The County will also obtain a Class II Industrial User Permit for discharge of non-domestic wastewater to the South San Luis Obispo County Sanitation District wastewater collection system. This permit will require the County to specify the estimated annual volume of effluent to be discharged to the collection system and the types of effluent to be discharged. The permit will require the County to conduct random self-monitoring three times a year and to consolidate the monitoring reports in an annual report to the South San Luis Obispo Sanitation District and the Environmental Compliance Inspector.

4.13.4 Groundwater

This analysis compares the potential groundwater impacts of the Proposed Action to the No Action Alternative.

4.13.4.1 Thresholds of Significance

FAA Order 1050.1F, Exhibit 4-1, defines the FAA's significance threshold for groundwater as follows.

The action would:

1. *Exceed groundwater quality standards established by Federal, state, local, and tribal regulatory agencies; or*
2. *Contaminate an aquifer used for public water supply such that public health may be adversely affected.*

4.13.4.2 Alternatives Evaluation

As noted in **Section 3.13**, the nearest sole source aquifer is 80 miles away. The Oceano Community Services district draws water supplies from the groundwater basins, if needed to supplement other sources and recently installed new deeper wells that pump better quality

water from deeper aquifers in the region. The nearest groundwater basin, the San Luis Obispo Valley Basin, is located approximately 6 ½ miles north of the Airport.[33]

No Action Alternative

Under the No Action Alternative, the elements of the Proposed Action would not be developed, and the Airport's effects on surface waters would not differ from existing conditions. The Airport's drainage basins, drainage infrastructure, and outfalls would continue to discharge to the surrounding receiving waters; notably the Oceano Lagoon, a brackish water body, and Arroyo Grande Creek, a freshwater stream, as shown in **Figure 3-15**.

Proposed Action

As explained in more detail below, the Proposed Action would not result in exceedances of groundwater quality standards established by Federal, state, local, or tribal regulatory agencies, and would not result in contamination of an aquifer used for public water supply such that public health may be adversely affected. As the San Luis Obispo Valley Basin groundwater basin is located approximately 6 ½ miles north of the Airport, and at a higher elevation than the Airport, there is no potential for water infiltrating into the ground from the Airport to affect that groundwater basin. Therefore, the Proposed Action would not have a significant impact on groundwater resources.

Construction Impacts. The potential for surface water contamination to increase with implementation of the Proposed Action is discussed above in the *Surface Waters* section. As the potential for significant contamination of surface water resources is non-significant, the subsequent infiltration of that surface water into an area which is not a groundwater basin would not result in a significant impact on groundwater.

Proposed Action. The slight increase in stormwater effluent caused by the increase in impervious surface would also increase the volume of stormwater discharging into the surrounding surface waters. Continued compliance with the provisions of the Airport's NPDES permit and the installation of the proposed pollution control facility would limit the potential for contaminants to reach the water table through the surrounding surface waters so as to not have a significant impact on groundwater resources.

Potential Contribution to Cumulative Impacts. Implementation of the Proposed Action would have no effect on a sole source aquifer or groundwater basin. The minor effects of the Proposed Action on groundwater in the vicinity of the Airport would not contribute to a significant groundwater impact when considered in combination with other past, present, or reasonably foreseeable future actions.

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33 San Luis Obispo County Department of Public Works and Transportation. http://gis.slocounty.ca.gov/Html5Viewer/Index.html?configBase=/Geocortex/Essentials/REST/sites/PW_SGMA/viewers/PW_Viewer/virtualdirectory/Resources/Config/Default&LayerTheme=3

Mitigation, Avoidance, and Minimization. Implementation of the Proposed Action would have no adverse effects to significant groundwater resources and no mitigation is required. While not required to reduce groundwater impacts to not significant levels, compliance with the Airports NPDES permit and NPDES Construction General Permit would lessen the potential for contamination of groundwater resources.

4.14 CUMULATIVE IMPACTS

The purpose of this analysis is to disclose the potential for implementation of the Proposed Action to contribute to significant cumulative impacts when considered in combination with the effects of other past, present, and reasonably foreseeable future actions. This analysis is organized as follows.

- Potentially Affected Resources – describes the resources that could be affected by the implementation of the Proposed Action based on the previous analyses of environmental consequences.
- Past, Present, and Reasonably Foreseeable Projects – identifies other projects that could contribute to cumulative impacts.
- Conclusions – summarizes the findings of the cumulative impacts analysis.

4.14.1 Potentially Affected Resources

In order to contribute to cumulative impacts, implementation of the seven project elements must affect an environmental resource when compared to the No Action Alternative. **Table 4-3** shows the potential for the Proposed Action to contribute to cumulative impacts with respect to specific resources. As noted in the previous sections, the elements incorporated in the Proposed Action would have little or no impact to any resource. The FAA has not defined specific thresholds of significance for many of these environmental resources. However, the relatively minor impacts of the Proposed Action would not contribute to a significant cumulative impact when considered in combination with the impacts of other past, present, or reasonably foreseeable future actions as described further below.

Temporary construction impacts would consist of increased erosion and sedimentation and air pollutant emissions including fugitive dust. In addition, construction vehicles will increase traffic on local streets. Use of BMPs including erosion and sedimentation controls, limiting construction vehicle idling when not in use, fugitive dust controls, use of designated construction routes, and limiting construction activity to daytime hours, will minimize construction impacts. As described in **Table 1-2**, construction of the elements of the Proposed Action would occur over a six-year period from 2020 through 2025.

As noted in previous sections and in **Table 4-3**, the Proposed Action would have minor permanent impacts to water quality and related biological and coastal resources due to a small, 0.75 acre (6.6 percent) increase in the existing impervious surface on the Airport, and the associated increase in stormwater runoff (see **Section 4.14.3** and **Appendix A**). This impact would be at least partially offset by the effects of the proposed pollution control facility, which would improve water quality by reducing the amount of oil, grease and detergent effluent from aircraft washing. In addition, the Proposed Action would permanently displace up to 0.002 acres) of coastal wetland and 0.02 acres of native vegetation (see **Section 4.2.2.2**).

4.14.2 Present and Reasonably Foreseeable Projects

As described above, the construction of the project elements would temporarily affect air quality and water quality during construction. These impacts would be minimized through the use of BMPs. Permanent impacts to water quality and related biological and coastal resources would be due to the increase in impervious surface and associated stormwater runoff, and minimal loss of wetlands and native vegetation. The impacts of the Proposed Action would be limited to the local area. **Section 3.14** identifies five past, present, and reasonably foreseeable future projects in the local area, as described below.

Past On-Airport Development

Past project approvals include on-Airport projects including the installation of an Automated Weather Observation Station, and the Oceano Drainage Improvement Project.

These projects have had little if any permanent effect on the environment. The temporary construction impacts of these projects did not coincide with those of the Proposed Action. These projects would not contribute to potentially significant cumulative impacts when considered in combination with those of the Proposed Action.

Current On-Airport Development.

The projects incorporated in the Proposed Action represent the current development plans.

Table 4-3
PROPOSED ACTION POTENTIAL CONTRIBUTIONS TO CUMULATIVE IMPACTS

Resources	Construction	Physical Development and Operational
Air Quality	Particulates/dust (1).	None.
Biological Resources (2)	Stormwater runoff/sedimentation (1) (3), possible impacts to 0.90 acres of native vegetation (4).	Loss of 0.02 acres of native vegetation.
Climate (2)	Slight increase in greenhouse gas (GHG) emissions.	None.
Coastal Resources (2)	Stormwater runoff/sedimentation (1) (3), possible impacts (crushing) to 0.92 acres of native vegetation and 0.92 acres of wetlands (4).	Slight (6.6%) increase in stormwater runoff (5); loss of 0.02 acres of native vegetation and 0.017 acres of wetlands.
DOT Section 4(f)	None.	None.
Hazardous Materials / Solid Waste (2)	Use of hazardous materials and solid waste generation.	Possible slight (6.6%) increase in use of hazardous materials for maintenance of new paving.
Historical / Architectural/ Archaeological / Cultural Resources (2)	None.	None.
Land Use (2)	None.	None.
Natural Resources and Energy Supply (2)	Slight increase in energy consumption and use of construction materials.	Possible slight increase in energy consumption for new lighting (6).
Noise / Noise Compatible Land Use	Minor, localized noise impacts due to construction activity.	None.
Socioeconomic and Related (2)	Minor increase in surface traffic on local roads.	None.
Visual Effects (2)	None.	None.
Water Resources	Stormwater runoff/sedimentation (1) (3), possible impacts (crushing) to 0.92 acres of wetlands (4).	Slight (6.6%) increase in stormwater runoff; loss of 0.074 acres of wetlands.

Notes:
(1) Use of BMPs would minimize potential impacts.
(2) No specific threshold for significance.
(3) Compliance with NPDES Construction Permit would minimize potential impacts.
(4) Maximum potential impact, actual impacts would likely be substantially less.
(5) Compliance with NPDES permit would reduce potential impacts.
(6) Possible use of solar power and/or use of reflectors in lieu of taxiway lighting would reduce energy consumption.

Source: RS&H analyses documented in previous sections.

Future On-Airport Development.

Planned development and redevelopment projects on the Airport are listed below.

- **Planned extension of a ramp on the southwest side of airfield.** This project would not encroach on wetlands. The other potential effects of this development are not reasonably foreseeable at this time because the timing of the projects has not been finalized and because design details such as drainage have not been developed. The temporary construction impacts of this development would not coincide with those of the Proposed Action. This project would not contribute to potentially significant cumulative impacts when considered in combination with those of the Proposed Action.
- **Planned release of excess non-aeronautical property and the pursuit of abandoned right-of-way property within the runway protection zone.** The effects of this project are not reasonably foreseeable because the future uses of those properties are not known.
- **Redevelopment of older County-owned hangars on the existing ramp.** Existing hangars will be replaced by four new hangars of about 2,500 square feet each. The redeveloped hangars would not contribute to permanent impacts because they would continue to occupy existing paved areas and serve the functions of the existing hangars. The temporary construction impacts of this development would not coincide with those of the Proposed Action. This project would not contribute to potentially significant cumulative impacts when considered in combination with those of the Proposed Action.

Off-Airport Development

As noted in **Section 3.14**, the Oceano Community and San Luis Obispo County have approved or received development applications for the following developments in the vicinity of the Airport.

- **Air Park Drive Bridge Replacement.** This project was recently completed. The project site included 0.15 acres of surface waters and associated wetlands in and adjacent to the Oceano Lagoon. This project replaced an existing bridge and impacts to biological and water resources would have been temporary and not coincide with those of the Proposed Action. In the absence of a specific threshold of significance, the FAA has identified four considerations in assessing significance (see **Section 4.2.1**).
    - Long-term or permanent loss of unlisted plant or wildlife species, specifically, the extirpation of the species from a large project area such as a new commercial service airport.
    - Adverse impacts to special status species such as state species of concern, species proposed for listing, migratory birds, bald and golden eagles, or their habitats;
    - Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their population.

  - Adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural mortality, or ability to sustain the minimum population levels required for population maintenance.

Given the very small impact of the Proposed Action, 0.03-acre loss of native vegetation, including a 0.001-acre loss of wetlands, the potential cumulative impacts of this project and the Proposed Action would not result in any of the outcomes identified above.

- **Grover Beach Lodge.** This project would remove 0.056 acres of the coastal wetlands that, combined with the 0.001 acres of wetland removed by the Proposed Action, would have a negligible effect on biological resources according to the considerations outlined above and in **Section 4.2.1**. Construction of this project is expected to occur between 2021 and 2024; however, the project has been subject to numerous delays and the timing is still subject to change. Given the attainment status of this portion of San Luis Obispo County, construction emissions of this project combined with those of the Proposed Action would not be significant.
- **Grover Beach Train Station Safety Upgrades.** This project relocated the bus drop-off zone and train depot to the same side of the tracks and included a new entrance to the station, new loading docks, and 42 additional parking spaces, all on previously developed areas. This project did not cause impacts to the resources affected by the Proposed Action (see **Table 4-3**). Construction of this project was completed in 2018. would not contribute to potentially significant cumulative impacts when considered in combination with those of the Proposed Action.
- **Oceano Revitalization Plan.** This project is in the concept design phase and the potential environmental impacts of the plan are not reasonably foreseeable at this time.

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CHAPTER 5. CONSULTATION AND COORDINATION

Under 40 CFR 1501.4, federal agencies are required to involve environmental agencies, applicants, and the public, to the extent practicable, in preparing EAs. The primary components of the agency coordination and public involvement program for this EA include:

- Distribution notification letter to agencies;
- Publication of the Draft EA for agency and public review; and
- Preparation of a Final EA that will include responses to comments received on the Draft EA.

Keeping agencies and the public informed and gathering input from each is an essential component of any environmental study. The following sections summarize the agency coordination and public involvement program for this EA.

5.1 COORDINATION

Table 5-1 includes a list of entities contacted as part of coordination efforts associated with this EA.

5.2 DRAFT EA AVAILABILITY FOR REVIEW

This Draft EA was made available for review by the general public, government agencies, and interested parties for a period of 30 days from April 26, 2021 to May 27, 2021. The Notice of Availability (NOA) of the Draft EA was published in the Legal section of the San Luis Obispo Tribune. Electronic copies of the Draft EA were available at https://www.sloairport.com/l52-oceano/. Due to the COVID-19 public health emergency and the potentially changing availability of libraries and other offices for public review, individual hard copies of the Draft EA were not distributed to such offices. However, hard copies of the Draft EA and flash drives containing the Draft EA were available at to review can request them at County of San Luis Obispo Department of Airports, 975 Airport Drive, Suite 1, San Luis Obispo, CA 93401.

All comments received on the Draft EA during the comment period were considered by the County and FAA in preparing the Final EA. Copies of comments and responses to those comments will be provided in **Appendix I**.

Table 5-1
COORDINATION LETTERS

Entity	Location
USEPA Air Resources Board	1001 "I" Street, Sacramento, CA 95814
Caltrans District 5	50 Higuera Street, San Luis Obispo, CA 93401
Caltrans Division of Aeronautics	1120 S Main Street, Sacramento, CA 94274-0001
Caltrans Planning	Planning, MS #32, P.O. Box 942874, Sacramento, CA 94274-0001
Fish & Game Region # 4 (Central Region)	3196 South Higuera Street, San Luis Obispo, CA 93401
Native American Heritage Commission	1550 Harbor Blvd, Suite 100, West Sacramento, CA 95691
Office of Historic Preservation	1725 23rd St #100, Sacramento, CA 95816
Central Coast Regional Water Quality Control Board (Region 3)	895 Aerovista Place, Suite 101, San Luis Obispo, CA 93401
Resources Agency	1416 Ninth Street, Suite 1311, Sacramento, CA 95814
SWRCB: Water Quality	P.O. Box 100, Sacramento, CA 95812-0100
Department of Water Resources	423 Washington St. #300, San Francisco, CA 94111
San Luis Obispo County Air Pollution Control District	3433 Roberto Ct, San Luis Obispo, CA 93401
San Luis Obispo County Government Center	1055 Monterey Street, San Luis Obispo, CA 93408
Oceano Community Services District	1655 Front Street, Oceano, CA 93445
Lucia Mar Unified School District	602 Orchard Street, Arroyo Grande, CA 93420
State Clearinghouse	P.O. Box 3044, Sacramento CA 95812-3044
California Coastal Commission	725 Front Street #300, Santa Cruz, CA 95060
California Parks and Recreation Department	340 James Way #270, Pismo Beach, CA 93449
San Luis Obispo County Public Works Department	976 Osos Street #207, San Luis Obispo, CA 93401
San Luis Obispo County Planning & Building	1055 Monterey Street, San Luis Obispo, CA 93408
Arroyo Grande City Council	300 E Branch Street, Arroyo Grande, CA 93420
Grover Beach City Clerk	154 S 8th Street, Grover Beach, CA 93433
South San Luis Obispo County Sanitation District	1600 Aloha Place, Oceano, CA 93445

Source: RS&H June 2019

CHAPTER 6. REFERENCES

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CHAPTER 7. LIST OF PREPARERS

This Draft EA was prepared for the County of San Luis Obispo Department of Airports in accordance with FAA Orders 1050.1F and 5050.4B and CEQ Regulations Section 1502.17.[34] The following individuals from the lead federal agency, the airport sponsor, and the principal preparers working under contract to the airport sponsor.

7.1 LEAD FEDERAL AGENCY

Responsibility for review of this Draft EA rests with the Federal Aviation Administration (FAA) Western Region – San Francisco Airport District office (ADO). The principal FAA reviewers are listed below.

Richard Doucette, Environmental Protection Specialist, New England Region.

Douglas Pomeroy, Environmental Protection Specialist, San Francisco Airports District Office.

7.2 AIRPORT SPONSOR

As the airport sponsor, the County of San Luis Obispo Department of Airports provided information on the proposed project and associated development on the Airport. The principal participant for the airport sponsor is listed below.

Craig Piper – Deputy Director, County of San Luis Obispo Department of Airports

7.3 PRINCIPAL PREPARERS

An interdisciplinary team of researchers, technicians, and experts in various disciplines were required to prepare and complete the necessary documentation. The lead consultant for preparation of this document is RS&H supported by Althouse and Meade, and LSA.

7.3.1 RS&H

William J. Willkie, B.A. Architecture, M.C.P Environmental. 37 years of experience. EA project manager, research and preparation of EA sections, and graphic preparation.

Joseph Gale, B.A. Environmental Science, M.S. Sustainable Management. 4 years of experience. Research and preparation of EA sections, graphic preparation.

David J. Full, AICP, B.A. Urban Planning, M.U.P. 33 years of experience. QA/QC of all work products.

[34] Council on Environmental Quality, 40 CFR Section 1502.17, *List of Preparers*, November 1978.

Karin Bouler, B.A. Anthropology, 12 years of experience. Preparation of EA sections.

7.3.2 Althouse and Meade, Inc. Biological and Environmental Services

LynneDee Althouse, Principal Biologist. Biological and wetland delineation report preparation.

Jessica Griffiths, Senior Biologist. Conducted biological survey and wetland delineation of the project site.

7.3.3 LSA Associates

E. Timothy Jones, Cultural Resource Specialist. Conducted cultural resource investigation.

APPENDIX A

Conceptual Design Documentation

June 2019

APPENDIX A: CONCEPTUAL DESIGN DOCUMENTATION

The environmental analyses in the NEPA and CEQA documents for the proposed improvements at Oceano County Airport (the Airport) are based on conceptual designs prepared to provide a realistic basis for assessing their environmental consequences.

1. Widen runway from 50 to 60 feet
2. Widen Taxiways A, A-1, A-2, A-3, and A-4 from 20 to 25 feet
3. Relocate segmented circle and wind cone
4. Installation of taxiway edge lighting
5. Installation of hold position signage
6. Installation of a new electrical vault and connections
7. Installation of a pollution control facility (wash rack)

CIVIL ENGINEERING CALCULATIONS

The purpose of this conceptual design effort is to identify the amount of impervious surface, grading (cut and fill) and drainage implications of the projects identified above. The conceptual design calculations detailed in the following figures indicate that Projects 1 and 2, widening the runways and taxiways would increase the total amount of impervious surface on the Airport by 32,016 square feet, or 0.73 acres; a 6.6 percent increase in the Airport's impervious surface area. Drainage patterns would remain the same as both the runway and taxiways would continue to sheet flow from their centerlines to the edge of pavement and then into open, grassed areas. The existing drainage system is able to accommodate the modest increase in stormwater runoff that would occur, particularly as soil conditions on the Airport are conducive to infiltration.

Figure A-1 shows the locations of the seven projects incorporated in the Proposed Action.

Figure A-2 details the runway and taxiway widening planned at the east end of the Airport.

Figure A-3 details the runway and taxiway widening planned at the west end of the Airport.

Figure A-4 shows the Airport's existing drainage basins and areas of impervious surface.

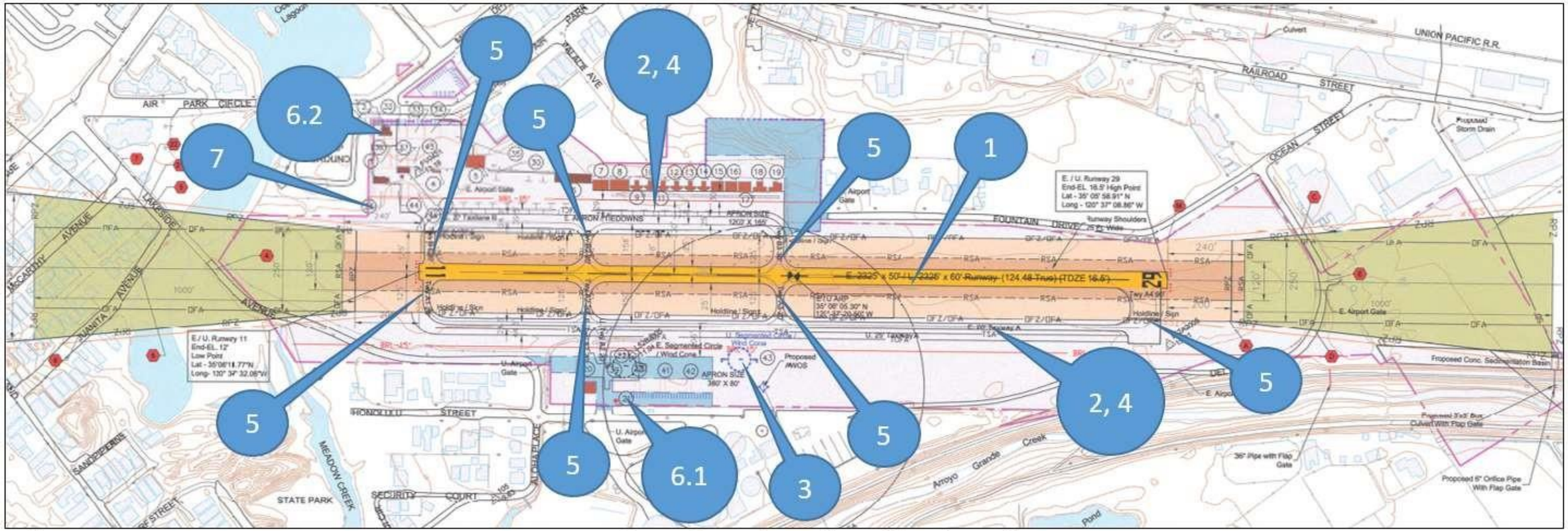
ELECTRICAL POWER AND COMMUNICATIONS AND DISTRIBUTION

The purpose of this conceptual design effort is to identify the location of electrical power and communications lines to identify areas that would be disturbed for trenching to bury the power and communications cables. Figure A-5 shows the likely locations of power and electrical distribution system required to support Projects 3, 4, and 6.

CONNECTION TO SEWER COLLECTION SYSTEM

The pollution control facility (aircraft wash rack) will be connected to the South San Luis Obispo County Treatment Facility adjacent to the Airport via sewer existing lines (see Figure A-6). Wash rack effluent would be piped to an existing 8" diameter line adjacent to the Airport via an existing on-Airport branch line. Wash rack effluent would flow to the sewer system through an oil/water separator prior to being piped to the branch line.

Figure A-1
Proposed Projects



Key:

1. Widen runway from 50 to 60 feet
2. Widen Taxiway A, A-1, A-2, A-3, and A-4 from 20 to 25 feet
3. Relocate segmented circle and wind cone
4. Installation of taxiway edge lighting
5. Installation of hold position signage
6. Installation of a new electrical vault and electrical connections (6.1 - New vault location; 6.2 – Old vault location.)
7. Installation of a pollution control facility (wash rack)

Source: Oceano County Airport: Airport Layout Plan

North

Scale (feet):

0 250 500 1,000

Source: RS&H August 2018

Figure A-2
Runway and Taxiway Widening – East End of the Airport

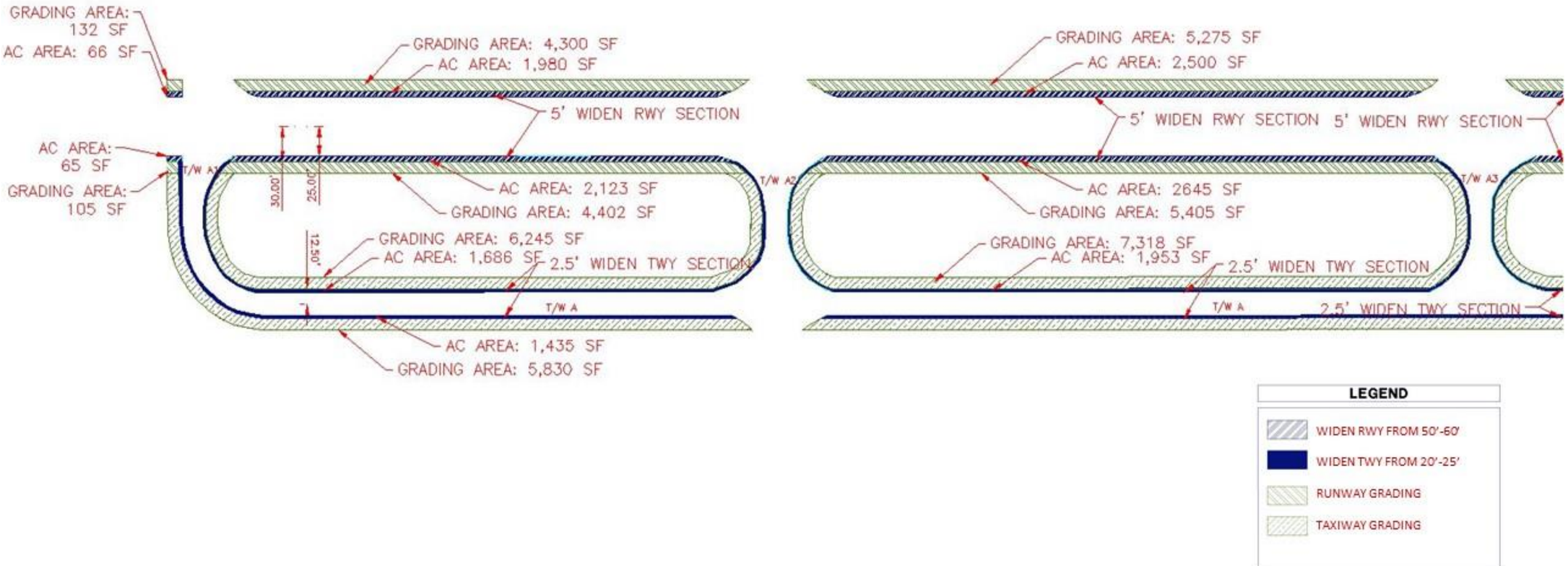


Figure A-3
Runway and Taxiway Widening – West End of the Airport

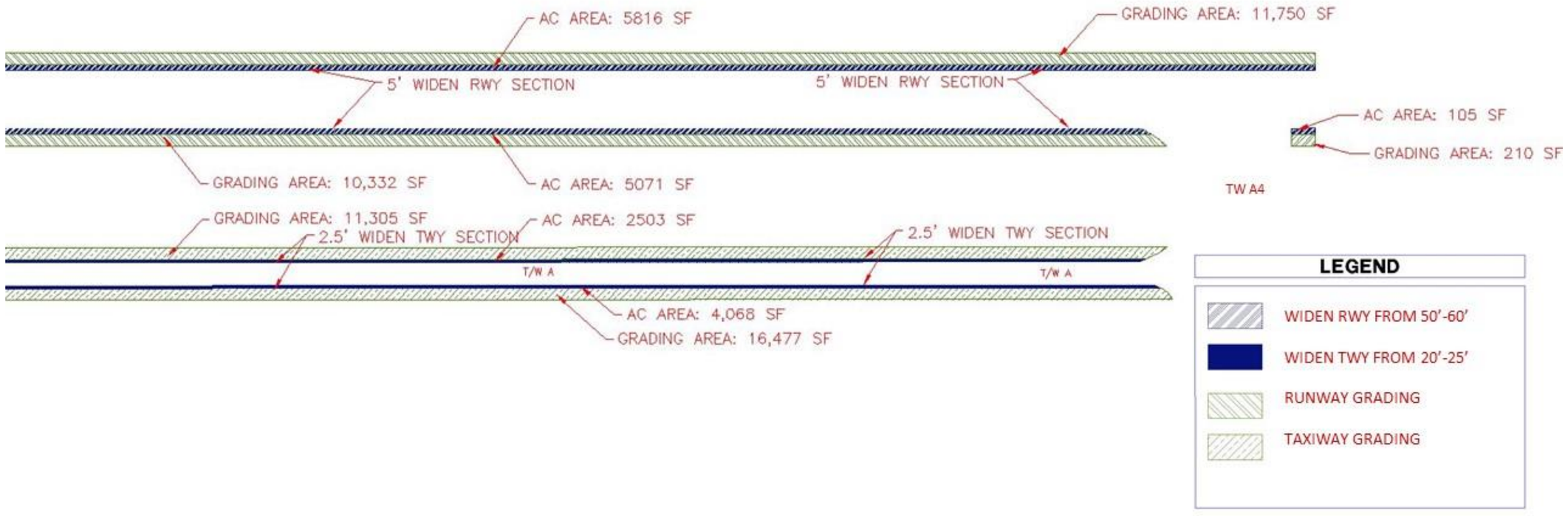
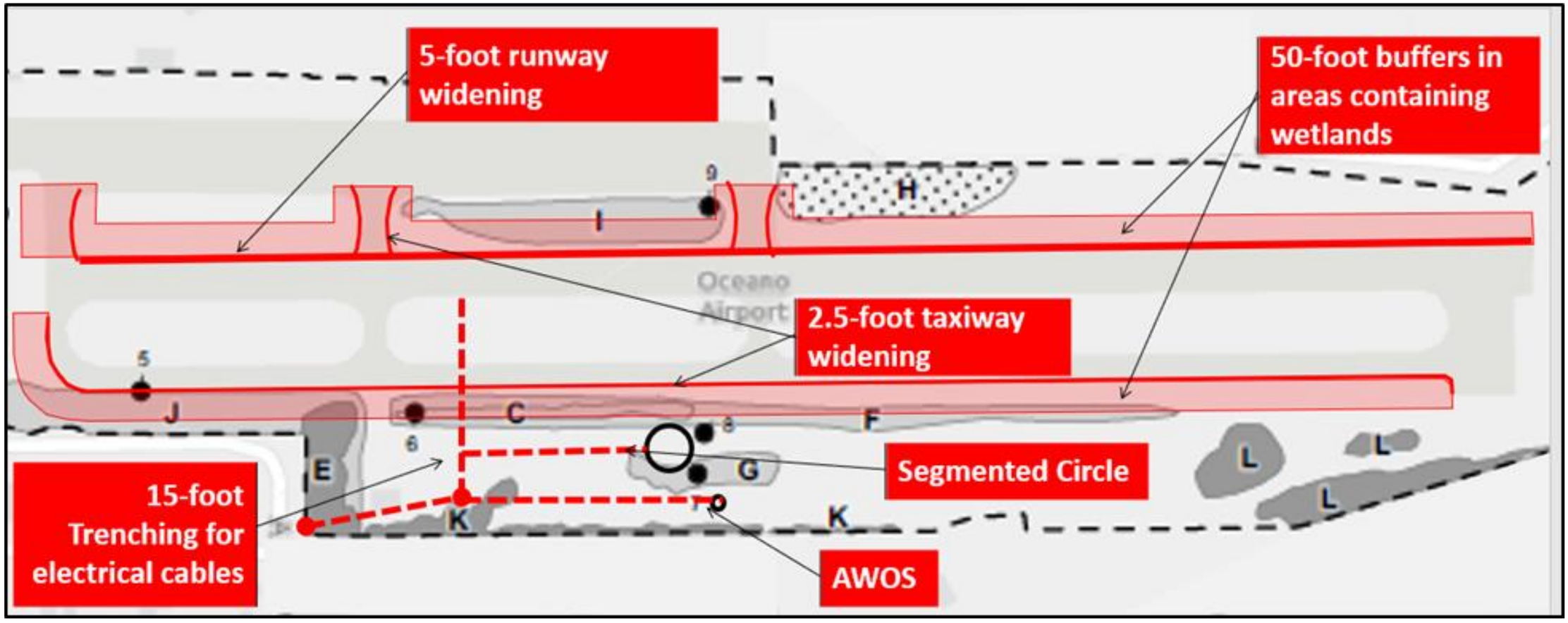


Figure A-4
Electrical Distribution System



Legend

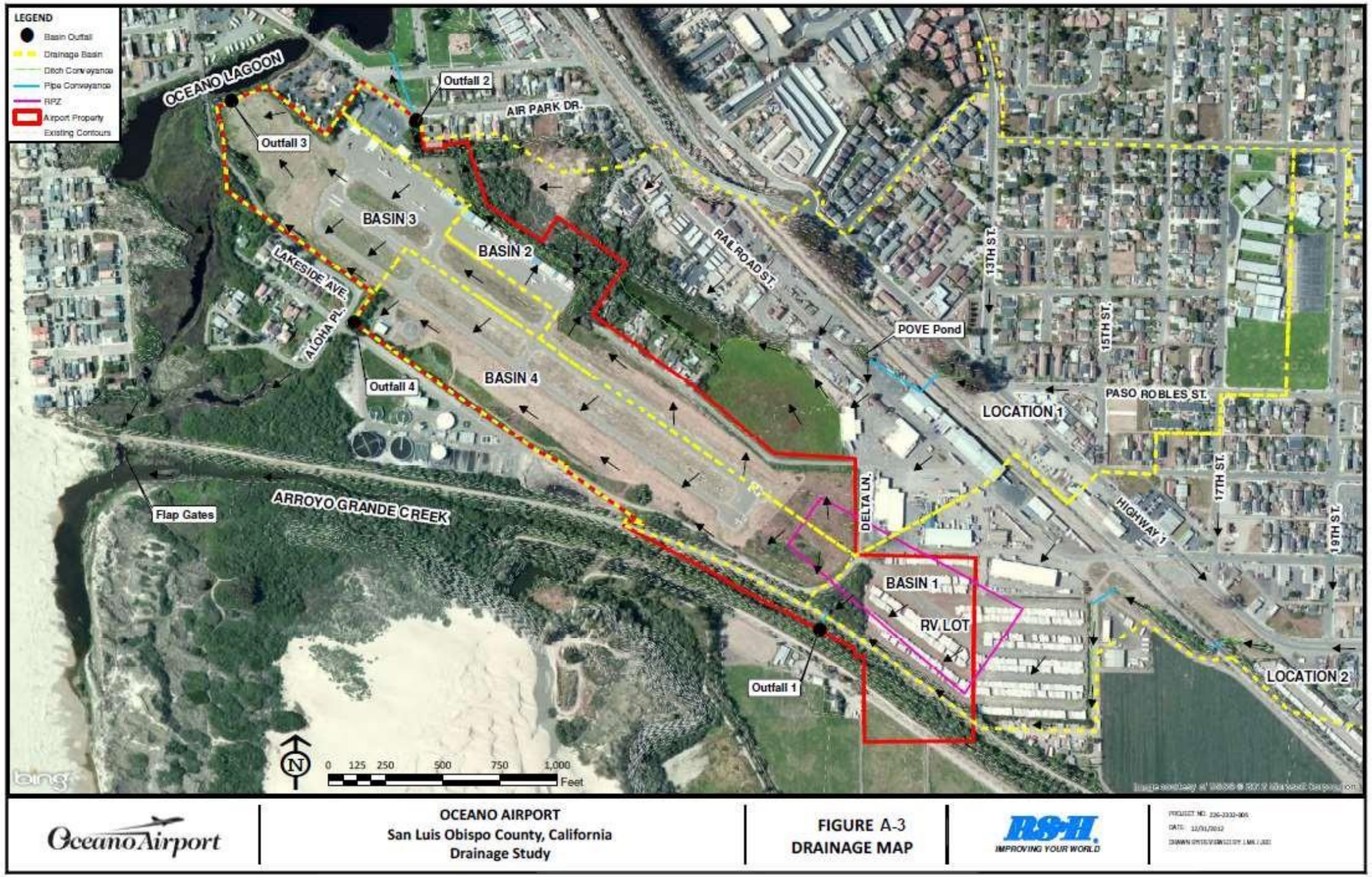
Scale (feet): 0 250 500 1,000

North

Note. Electrical cables will also run parallel to runway and taxiways underneath new pavement and/or shoulders.

Source: RS&H July 2019

Figure A-5
Drainage Basins

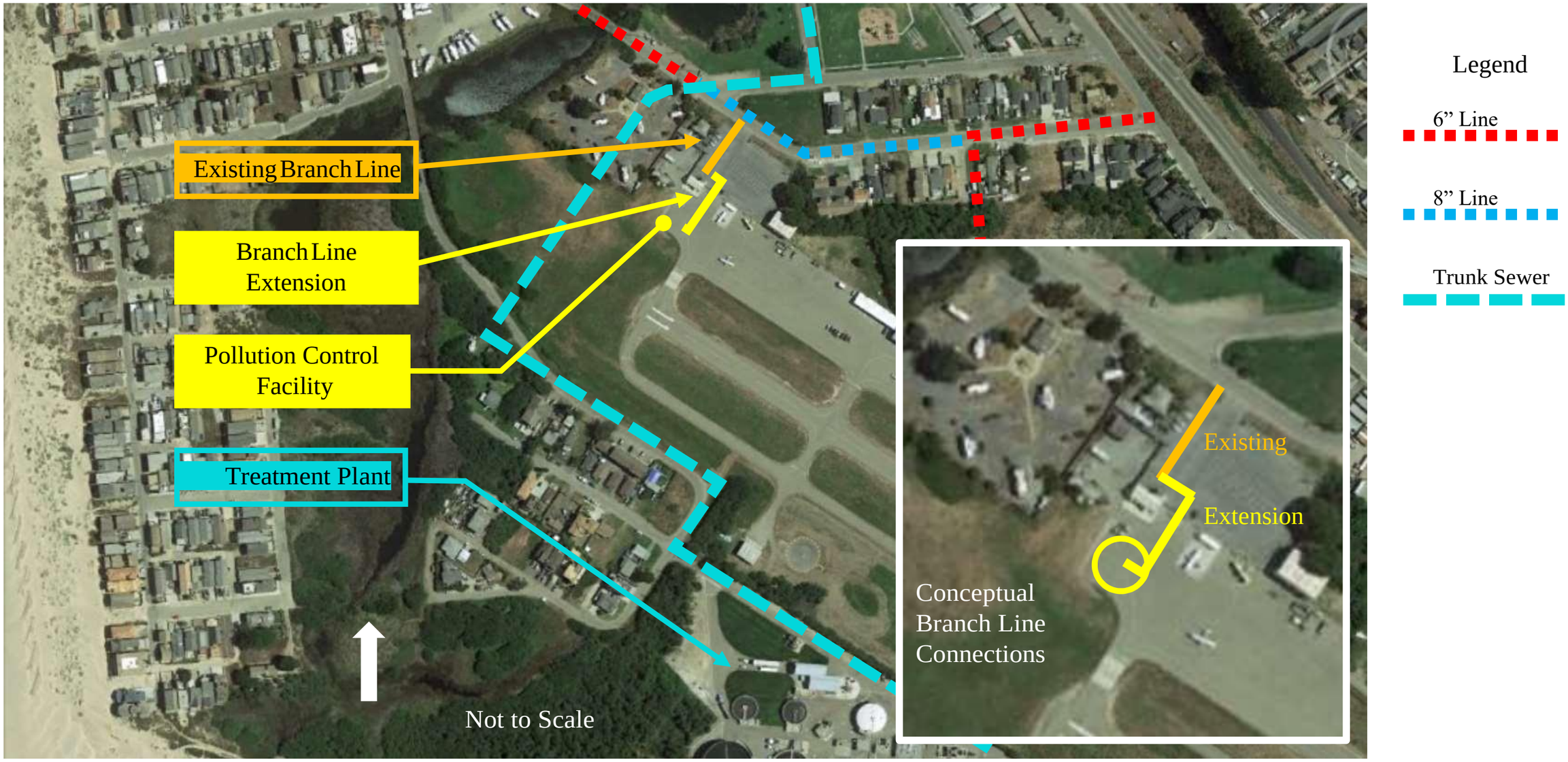


Impervious Surfaces by Basin

Basin	Acres
1	0.00
2	4.40
3	3.70
4	2.90
Total	11.00

Source: Drainage Oceano County Airport Drainage Study, RS&H, February 2013

Figure A-6
Pollution Control Facility Connection to Sanitary Sewer Line



Source: Oceano Community Services District, Sewer Collection System, 2015 Update, Figure 4.

APPENDIX B

Aviation Activity Forecasts

APPENDIX B: AVIATION ACTIVITY FORECASTS

The forecast for the Airport developed in the May 2015 Airport Layout Plan (ALP) Update Narrative Report (the Narrative Report) is based on the 2007 Master Plan forecast and the FAA Terminal Area Forecast (TAF) published in January 2015. This information was collected prior to the COVID-19 public health emergency starting in March 2020. Aviation forecasts are anticipated to eventually return to the levels described in this document.

Table B-1 compares the ALP Update forecast to the January 2018 TAF. The available data do not indicate a material change in the forecast number of total operations or based aircraft. The Master Plan forecast is consistently less than the TAF through the forecast period, but the difference decreases over time until the Master Plan forecast of operations comes within six percent of the TAF by the year 2025. Given the very small changes in based aircraft and aircraft operations, it is likely that the mix of aircraft types operating at the Airport will also remain stable.

Table B-1
AVIATION FORECASTS

Forecast Scenarios	Forecast Years				
	2015	2020	2025	2030	2035
ALP Update - 2015					
General Aviation Operations					
Itinerant	3,800	4,700	5,600		
Local	2,600	3,200	3,800		
Total Operations	**6,400**	**7,900**	**9,400**		
Based Aircraft					
Single-Engine	9	10	11		
Multi-Engine	2	2	3		
Helicopters	1	2	2		
Ultralight / Sport	4	5	6		
Total Based Aircraft	**16**	**19**	**22**		
FAA TAF - 2018					
Itinerant GA	6,000	6,000	6,000	6,000	6,000
Local GA	4,000	4,000	4,000	4,000	4,000
Total Operations	**10,000**	**10,000**	**10,000**	**10,000**	**10,000**
Based Aircraft	**20**	**23**	**23**	**23**	**23**

Source: Airport Layout Plan Narrative, FAA Terminal Area Forecast (January 2018)

APPENDIX C

Air Pollution Control District Coordination

SLO COUNTY apcd | Air Pollution Control District
San Luis Obispo County

Via Email

January 4, 2019

William Willkie
RS&H, Inc.
369 Pine Street, Suite 610
San Francisco, CA 94104
william.willkie@rsandh.com

SUBJECT: APCD Comments for NEPA Coordination – Environmental Assessment – Oceano Airport

Dear Mr. Willkie:

Thank you for including the San Luis Obispo County Air Pollution Control District (APCD) in the environmental review process. We have completed our review of the proposed construction at Oceano Airport as part of National Environmental Policy Act (NEPA) coordination and related Environmental Assessment.

San Luis Obispo County, as owner of the Oceano County Airport, proposes to build seven projects recommended in its Master Plan. The Federal Aviation Administration must approve the development of these projects, which is a federal action subject to the requirements of the NEPA. The project will include widening the runways 11-29 from 50 to 60 feet, widening taxiways A, A-1, A-2, A-3, and A-4 from 20 to 25 feet, relocating segmented circle and wind cone, installing taxiway edge lighting, installing hold position signage, installing a new electric vault and electrical connections.

As a commenting agency in the California Environmental Quality Act (CEQA) review process for a project, the APCD assesses air pollution impacts from both the construction and operational phases of a project, with separate significant thresholds for each.

Please address the action items contained in this letter, with special attention to items that are highlighted by bold and underlined text.

The following are APCD comments that are pertinent to this project.

Environmental Setting

The proposed project is in an area that is impacted by periods of high particulate matter concentrations during blowing dust events.

To keep the public informed of periods of deteriorating air quality, the APCD provides a daily air quality forecast for SLO County, which is partitioned into nine air quality forecast zones. An air quality forecast for a six-day period is provided for each zone. At the Pier Avenue & Strand Way area of Oceano and the Nipomo Mesa area, there are four forecast zones as shown in the map below. The zones are named for the monitoring stations that are located within each zone; CDF, MESA2, NRP and SLO:

The darker colors signify the typical location of the dust plume and the greater impacts during a typical blowing dust event. The public can experience adverse health impacts in areas with blowing dust.

The areas in the vicinity of the Oceano Airport are impacted by periods of high particulate matter concentrations during blowing dust events. For more detail of the Oceano (Pier Avenue & Strand Way) area impacts, please refer to the on-line map located at: https://www.google.com/maps/d/viewer?mid=1WwDZGOYEhbXGW20ikFqTBW0qekw&ll=35.34759152486542%2C-120.41017350000004&z=10

Part of this proposed Oceano Airport project is in the NRP zone, which currently receives roughly 0-20 exceedances of the state PM_{10} standard each year. Part of the project is in the SLO zone, which currently receives roughly 0-3 exceedances of the state PM_{10} standard each year. The northwestern edge of the project is in the MESA2 zone, which currently receives roughly 30-60 exceedances annually. The CDF zone, located on the Nipomo Mesa, currently receives roughly 60-95 exceedances annually.

Blowing dust events are typically most frequent in the spring, however, dust events can occur at any time of the year. The greatest impacts occur when the strong winds blow from the northwest which directs the dust plume inland where it can impact residents. A typical event tends to start around noon and end by the early evening, with peak impacts between 1 pm to 5 pm. The strongest events

can result in blowing dust from 9 am to 7 pm, with peak impacts between noon and 6 pm. Residents can plan to avoid peak dust impacts by being aware of typical dust plume characteristics. Particulate concentrations typically return to background levels from late evening to morning, so late evening to morning are best (health wise, due to lower particulate matter concentrations) for outdoor activities and exercise.

Children and individuals with compromised cardiac and respiratory systems or related health problems are called sensitive receptors. Sensitive receptors can experience greater health impacts than the general population during blowing dust events. Sensitive receptor locations include schools, residential dwellings, parks, day care centers, nursing homes, and hospitals.

Individuals can receive daily air quality forecasted conditions for the Nipomo Mesa and the Oceano (Pier Avenue & Strand Way) area, via email by registering on the EPA's EnviroFlash website and entering ZIP code 93444.

Efforts to reduce particulate matter from the blowing dust are underway through Stipulated Abatement Order 17-01 entered between the APCD and California Department of Parks and Recreation Off-Highway Motor Vehicle Recreation Division (State Parks). The Order was approved by the APCD Hearing Board on April 30, 2018. This stipulated abatement order calls out specific actions to ensure significant reductions in particulate matter are achieved over a five-year period.

Recommended mitigation measures for this project are provided in the comments that follow.

CONSTRUCTION PHASE IMPACTS - Insufficient Information

Sufficient information regarding the construction phase emissions for this project was not provided to quantify the air quality impact. **An air quality impact assessment of the construction phase needs to be completed that quantifies the impacts and incorporates mitigation if impacts are above the APCD's thresholds. Compare the estimated emissions to thresholds in Table 2-1 the *CEQA Air Quality Handbook* (April 2012).**

At a minimum, the construction phase air quality assessment needs to document the following information/assumptions that were used in the modeling:

- Area of disturbance;
- An estimation of the number and type of construction equipment operating throughout the construction phase of the project;
- Identify sensitive receptors within 1000 feet of the construction boundary (see Section 2.1.1 in the CEQA Air Quality Handbook);
- If project includes cut and fill, hauling (on-site or off-site), identify fleet mix, hauling route (must minimize sensitive receptor impact) and number of trips per day;
- Time frame for the operation of construction equipment during the project, which includes:
  - Estimated construction schedule for all phases including anticipated phase overlaps;
  - An estimation of the number of daily operating hours for the equipment;
  - An estimation of equipment that would operate simultaneously on a given day;
- Total square footage of the project area;
- Square footage and other relevant metrics for structures or buildings;
- Square footage and type of parking facilities;

- Square footage of open space/landscaped areas;
- Square footage and length of unpaved roads, driveways, runways and taxiways; and
- Square footage and length of paved roads, driveways, runways and taxiways.

Insufficient Diesel Equipment Information / Diesel Emissions Near Sensitive Receptors

This project may involve the use of numerous pieces of heavy-duty diesel equipment. Diesel particulate matter is listed as a toxic air contaminant by the California Air Resources Board with no identified threshold level below which there are no significant health effects. Therefore, the APCD is very concerned with projects that will produce large amounts of diesel exhaust near sensitive receptors.

To properly evaluate the diesel impacts to sensitive receptors, the project proponent shall calculate construction impact emissions and compare these values to the APCD's CEQA construction thresholds. If this project exceeds the thresholds, mitigation measures will be necessary. At a minimum, the construction phase air quality assessment needs to document the following information/assumptions that were used in the modeling:

- Area of disturbance and proximity of that area to sensitive receptors;
- Number and type of construction equipment operating throughout the construction phase of the project;
- Identify sensitive receptors within 1000 feet of the construction boundary;
- If project includes hauling, identify fleet mix, hauling route (must minimize sensitive receptor impact) and number of trips per day;
- Time frame for the operation of construction equipment during the project, which includes:
  - The total length of the project duration;
  - An estimation of the number of daily operating hours for the equipment; and
  - An estimation of equipment that would operate simultaneously on a given day.

The APCD recommends that the CalEEMod computer model be used to estimate air quality impacts. Provide a comparison of the estimated emissions to thresholds in the *CEQA Air Quality Handbook* (April 2012).

Dust Control Measures

Construction activities can generate fugitive dust, which could be a nuisance to nearby residents and businesses near the proposed construction site. The following measures should be included.

Projects with grading areas that are within 1,000 feet of any sensitive receptor, or the graded area is greater than 4 acres, shall implement the following mitigation measures to manage fugitive dust emissions such that they do not exceed the APCD's 20% opacity limit (APCD Rule 401) or prompt a nuisance violation (APCD Rule 402).

a. Reduce the amount of the disturbed area where possible;
b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site and from exceeding the APCD's limit of 20% opacity for greater than 3 minutes in any 60-minute period. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used

whenever possible. When water use is a concern due to drought conditions, the contractor or builder shall consider the use of an APCD-approved dust suppressant where feasible to reduce the amount of water used for dust control. Please refer to the following link for potential dust suppressants to mitigate dust emissions: http://www.valleyair.org/busind/comply/PM10/Products%20Available%20for%20Controlling%20PM10%20Emissions.htm;

c. All dirt stock pile areas should be sprayed daily and covered with tarps or other dust barriers as needed;
d. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible, following completion of any soil disturbing activities;
e. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established;
f. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD;
g. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used;
h. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;
i. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code (CVC) Section 23114;
j. "Track-Out" is defined as sand or soil that adheres to and/or agglomerates on the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto any highway or street as described in CVC Section 23113 and California Water Code 13304. To prevent 'Track Out', designate access points and require all employees, subcontractors, and others to use them. Install and operate a 'track-out prevention device' where vehicles enter and exit unpaved roads onto paved streets. The 'track-out prevention device' can be any device or combination of devices that are effective at preventing track out, located at the point of intersection of an unpaved area and a paved road. Rumble strips or steel plate devices need periodic cleaning to be effective. If paved roadways accumulate tracked out soils, the track-out prevention device may need to be modified;
k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers shall be used with reclaimed water where feasible. Roads shall be pre-wetted prior to sweeping when feasible;
l. All mitigation measures should be shown on grading and building plans;
m. Provide training to all site workers regarding dust control policies and practices and maintain records of training; and
n. Take additional measures as needed to ensure dust from the project site is not impacting areas outside the project boundary.

The contractor or builder shall designate a person or persons whose responsibility is to ensure any fugitive dust emissions do not result in a nuisance and to enhance the implementation of the mitigation measures as necessary to minimize dust complaints and reduce visible emissions below the APCD's limit of 20% opacity for greater than 3 minutes in any 60-minute period. Their duties

shall include holidays and weekend periods when work may not be in progress (for example, wind-blown dust could be generated on an open dirt lot). The name and telephone number of such persons shall be provided to the APCD Compliance Division prior to the start of any grading, earthwork or demolition (Contact Tim Fuhs at (805) 781-5912).

Construction Permit Requirements

Based on the information provided, we are unsure of the types of equipment that may be present during the construction phase. Portable equipment, 50 horsepower (hp) or greater, used during construction activities, may require California statewide portable equipment registration (issued by the California Air Resources Board) or an APCD permit.

The following list is provided as a guide (not exclusive) to equipment and operations that may have permitting requirements. For a more detailed listing, refer to the Technical Appendices, page 4-4, in the *CEQA Air Quality Handbook* (April 2012).

- Power screens, conveyors, diesel engines, and/or crushers;
- Portable generators and equipment with engines that are 50 hp or greater;
- Electrical generation plants or the use of standby generator;
- Internal combustion engines;
- Rock and pavement crushing;
- Unconfined abrasive blasting operations;
- Tub grinders;
- Trommel screens; and,
- Portable plants (e.g. aggregate plant, asphalt batch plant, concrete batch plant, etc.).

To minimize potential delays, prior to the start of the project, please contact the APCD Engineering Division at (805) 781-5912 for specific information regarding permitting requirements.

Construction Phase Idling Limitations

This project is near sensitive receptors (residences). Projects that will have diesel powered construction activity near any sensitive receptor shall implement the following mitigation measures to ensure that public health benefits are realized by reducing toxic risk from diesel emissions. **To help reduce the impact of diesel vehicles and equipment used to construct the project, the applicant shall implement the following idling control techniques**:

1. California Diesel Idling Regulations
    a. ***On-road diesel vehicles*** shall comply with Section 2485 of Title 13 of the California Code of Regulations. This regulation limits idling from diesel-fueled commercial motor vehicles with gross vehicular weight ratings of more than 10,000 pounds and licensed for operation on highways. It applies to California and non-California based vehicles. In general, the regulation specifies that drivers of said vehicles:
        1. Shall not idle the vehicle's primary diesel engine for greater than 5-minutes at any location, except as noted in Subsection (d) of the regulation; and,
        2. Shall not operate a diesel-fueled auxiliary power system (APS) to power a heater, air conditioner, or any ancillary equipment on that vehicle during sleeping or resting in a

sleeper berth for greater than 5.0 minutes at any location when within 100 feet of a restricted area, except as noted in Subsection (d) of the regulation.

b. ***Off-road diesel equipment*** shall comply with the 5-minute idling restriction identified in Section 2449(d)(2) of the California Air Resources Board's In-Use Off-Road Diesel regulation.
c. Signs must be posted in the designated queuing areas and job sites to remind drivers and operators of the state's 5-minute idling limit.
d. The specific requirements and exceptions in the regulations can be reviewed at the following web sites: www.arb.ca.gov/msprog/truck-idling/factsheet.pdf and www.arb.ca.gov/regact/2007/ordiesl07/frooal.pdf.

2. Diesel Idling Restrictions Near Sensitive Receptors (Residential dwellings)
In addition to the state required diesel idling requirements, the project applicant shall comply with these more restrictive requirements to minimize impacts to nearby sensitive receptors:
   a. Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;
   b. Diesel idling within 1,000 feet of sensitive receptors shall not be permitted;
   c. Use of alternative fueled equipment is recommended; and,
   d. Signs that specify the no idling areas must be posted and enforced at the site.

Truck Routing
Proposed truck routes should be evaluated and selected to ensure routing patterns have the least impact to residential dwellings and other sensitive receptors, such as schools, parks, day care centers, nursing homes, and hospitals. If the project has significant truck trips where hauling/truck trips are routine activity and operate near sensitive receptors, toxic risk needs to be evaluated.

Developmental Burning
Effective February 25, 2000, **the APCD prohibited developmental burning of vegetative material within San Luis Obispo County.** If you have any questions regarding these requirements, contact the APCD Enforcement Division at (805) 781-5912.

Hydrocarbon Contaminated Soil
Should hydrocarbon contaminated soil be encountered during construction activities, the APCD must be notified as soon as possible and no later than 48 hours after affected material is discovered to determine if an APCD Permit will be required. In addition, the following measures shall be implemented immediately after contaminated soil is discovered:

- Covers on storage piles shall be maintained in place at all times in areas not actively involved in soil addition or removal;
- Contaminated soil shall be covered with at least six inches of packed uncontaminated soil or other TPH –non-permeable barrier such as plastic tarp. No headspace shall be allowed where vapors could accumulate;
- Covered piles shall be designed in such a way to eliminate erosion due to wind or water. No openings in the covers are permitted;
- The air quality impacts from the excavation and haul trips associated with removing the

contaminated soil must be evaluated and mitigated if total emissions exceed the APCD's construction phase thresholds;

- During soil excavation, odors shall not be evident to such a degree as to cause a public nuisance; and
- Clean soil must be segregated from contaminated soil.

The notification and permitting determination requirements shall be directed to the APCD Engineering & Compliance Division at (805) 781-5912.

Lead During Demolition

Demolition of structures coated with lead-based paint is a concern for the APCD. Improper demolition can result in the release of lead-containing particles from the site. Sandblasting or removal of paint by heating with a heat gun can result in significant emissions of lead. Therefore, proper abatement of lead before demolition of these structures must be performed to prevent the release of lead from the site. **Depending on removal method, an APCD permit may be required. Contact the APCD Engineering & Compliance Division at (805) 781-5912 for more information. For additional information regarding lead abatement, contact the San Luis Obispo County Environmental Health (805) 781-5544 or Cal-OSHA at (818) 901-5403. Additional information can also be found online at www.epa.gov/lead**.

Demolition of Asbestos Containing Materials

Demolition activities can have potential negative air quality impacts, including issues surrounding proper handling, demolition, and disposal of asbestos containing material (ACM). Asbestos containing materials could be encountered during the demolition or remodeling of existing buildings or the disturbance, demolition, or relocation of above or below ground utility pipes/pipelines (e.g., transite pipes or insulation on pipes). **If this project will include any of these activities, then it may be subject to various regulatory jurisdictions, including the requirements stipulated in the National Emission Standard for Hazardous Air Pollutants (40CFR61, Subpart M - asbestos NESHAP).** These requirements include but are not limited to: 1) written notification, within at least 10 business days of activities commencing, to the APCD, 2) asbestos survey conducted by a Certified Asbestos Consultant, and 3) applicable removal and disposal requirements of identified ACM. Please contact the APCD Engineering & Compliance Division at (805) 781-5912 or go to https://www.slocleanair.org/rules-regulations/asbestos.php for further information. To obtain a *Notification of Demolition/Renovation Form* go to the *Asbestos Forms* section of https://www.slocleanair.org/library/download-forms.php.

OPERATIONAL PHASE IMPACTS - ROG + NOx Emissions & Greenhouse Gas Emissions
Estimate air quality impacts and compare the emissions to thresholds in the CEQA Air Quality Handbook (available at the APCD web site: slocleanair.org). The environmental evaluation for this plan should include Greenhouse Gas (GHG) emissions and compare the emissions to thresholds in the *CEQA Air Quality Handbook* (April 2012). Address emissions associated with any estimated increase in airport operational activity, such as diesel equipment use and aircraft takeoffs and landings.

Operational Permit Requirements

Based on the information provided, we are unsure of the types of equipment that may be present at the site. Operational sources may require APCD permits. The following list is provided as a guide

(not exclusive) to equipment and operations that may have permitting requirements. For a more detailed listing, refer to the Technical Appendices, page 4-4, in the *CEQA Air Quality Handbook* (April 2012).

- Portable generators and equipment with engines that are 50 ftp or greater;
- Electrical generation plants or the use of standby generator; and
- Internal combustion engines.

Most facilities applying for an Authority to Construct or Permit to Operate with stationary diesel engines greater than 50 hp, should be prioritized or screened for facility wide health risk impacts. A diesel engine-only facility limited to 20 non-emergency operating hours per year or that has demonstrated to have overall diesel particulate emissions less than or equal to 2 lb/yr does not need to do additional health risk assessment. To minimize potential delays prior to the start of the project, please contact the APCD Engineering Division at (805) 781-5912 for specific information regarding permitting requirements.

Again, thank you for the opportunity to comment on this proposal. If you have any questions or comments, feel free to contact me at 805-781 -5912.

Sincerely,

GARY ARCEMONT
Air Quality Specialist

GGA/jjh

cc: Craig Piper, SLO County Department of Airports
Tim Fuhs, APCD
Mark Elliott, APCD

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APPENDIX D

Biological Report

Biological Report

for

Airfield Pavement and Facilities Improvements Oceano County Airport

APN 061-093-044
Oceano, San Luis Obispo County, California

Prepared for

RS&H
369 Pine Street, Suite 610
San Francisco, CA 94104

by

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March 2019
Revised May 2020

877.04

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I certify that this Biological Report 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.

Lynne Dee Althouse — 5/22/20
Signature — Date

Jessica L Griffiths — 5/22/20
Signature — Date

Table of Contents

List of Tables

List of Figures

List of Appendices

Cover Page: View of wind cone surrounded by riparian and coastal brackish marsh habitat at Oceano County Airport. View facing southeast. Photo taken June 7, 2018.

SYNOPSIS

- This biological report examines a 42-acre Study Area located in unincorportated San Luis Obispo County, California. The Study Area includes Assessor's Parcel Number (APN) 061-093-044.
- The proposed project at the Oceano County Airport includes widening runways and taxiways, and installation of new lighting, signage, electrical vault, and a pollution control facility.
- Habitat types identified and mapped in the Study Area consist of annual grassland, coastal brackish marsh, arroyo willow riparian woodland, ruderal, iceplant mats, non-native ornamental trees, and anthropogenic.
- Botanical surveys conducted in date identified 68 species, subspecies, and varieties of vascular plants in the Study Area. There is low potential for six special status plants to occur in the Study Area. No special status plant species were observed in the Study Area.
- Wildlife species detected in the Study Area include two reptiles, 28 birds, and three mammals. There is potential for eight special status animals to occur in the Study Area, including one federally listed species (California red-legged frog). One special status species (yellow warbler) was detected in the Study Area. No state or federally listed wildlife species were detected in the Study Area.
- Temporary or permanent impacts may occur to coastal brackish marsh and riparian habitat. Mitigation recommendations are provided to reduce potential impacts to sensitive biological resources including native habitats, nesting birds, special status wildlife, and California red-legged frogs.

1 INTRODUCTION

1.1 Purpose

This report provides information regarding biological resources associated with an approximately 42-acre site (Study Area) in San Luis Obispo County, California. Results are reported for botanical and wildlife surveys of the Study Area conducted in May and June 2018 and January 2019. A habitat inventory and results of database and literature searches of special status species reports within an eight 7.5-minute quadrangle search area of the Study Area are also included. Special status species that could occur in the Study Area or be affected by the proposed project are discussed and lists of plant and animal species that were identified or are expected in the Study Area are provided. An evaluation of the effect of the proposed project on biological resources is included, and mitigation recommendations are outlined.

1.2 Location

The Study Area is at the Oceano County Airport, located at 561 Air Park Drive, off State Route 1, within the Census Designated Place (CDP) Oceano in San Luis Obispo County, California. The Study Area includes Assessor's Parcel Number (APN) 061-093-044. Approximate coordinates for the center of the Study Area are 35.101911° N / 120.623157° W (WGS84) in the United States Geological Survey (USGS) 7.5-minute topographic quadrangle Oceano (Figure 1). Elevation ranges from approximately 10 to 19 feet above mean sea level. The Study Area is approximately 0.25 miles from the Pacific Ocean, and is located within the Coastal Zone.

1.3 Project Description

The proposed project (Project) at the Oceano County Airport includes widening runways and taxiways, and installation of new lighting, signage, electrical vault, and a pollution control facility. The major components of the project include:

- Widen runway from 50 to 60 feet (five feet on either side of the runway). Includes grading and paving the runway and grading the shoulders on either side of the runway to maintain required runway shoulder widths and drainage of stormwater flows to the existing drainage system. Also includes replacement of existing runway edge lighting.
- Widen Taxiways A, A-1, A-2, A-3, and A-4 from 20 to 25 feet (2.5 feet on either side of the taxiways). Includes grading and paving on either side of the taxiways, maintenance of required taxiway shoulder widths, and storm-water drainage consistent with FAA Airport Design standards. The project includes the replacement and installation of new taxiway edge lighting and the necessary extension of electrical power supply.
- Install hold position signage.
- Install new electrical vault and electrical connections. Includes demolition of existing electrical vault, existing parking, and existing obsolete house/office near the Air Park Circle entrance.
- Relocate segmented circle and wind cone. Includes an extension of the vehicle service road to the facilities and the extension of electrical power from the new electrical vault.
- Install a pollution control facility (aircraft wash rack) on existing pavement. Includes extension of power and water supply as well as the installation of appropriate storm-water

runoff containment infrastructure consisting of collection piping and an oil/water separator. Storm-water not associated with aircraft washing would continue to discharge through existing storm-water conveyance infrastructure to the existing permitted outfall.

1.4 Regulatory Framework

The following laws and regulations are relevant to the Project, either on the federal or state level. The Project must conform to these regulations and may require further permits from regulatory agencies mentioned below.

1.4.1 Federal Law and Regulations

Bald and Golden Eagle Protection Act. The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the Secretary of the Interior, from taking (pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb) bald or golden eagles, including their parts, nests, or eggs. This includes substantially interfering with normal breeding, feeding, or sheltering behavior.

Clean Water Act. The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. Permitting is required for filling waters of the U.S. (including wetlands). Permits may be issued on an individual basis or may be covered under approved nationwide permits.

Endangered Species Act. The Federal Endangered Species Act (ESA) provides the legal framework for the listing and protection of species (and their habitats) identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a 'take' under the ESA. Take of a federally listed threatened or endangered species is prohibited without a special permit. The ESA allows for take of a threatened or endangered species incidental to development activities once a habitat conservation plan has been prepared to the satisfaction of the U.S. Fish and Wildlife Service (USFWS) and an incidental take permit has been issued. The ESA also allows for the take of threatened or endangered species after consultation has deemed that development activities will not jeopardize the continued existence of the species. The federal ESA also provides for a Section 7 Consultation when a federal permit is required, such as a Clean Water Act Section 404 permit.

"Critical Habitat" is a term within the federal ESA designed to guide actions by federal agencies (as opposed to state, local, or other agency actions) and defined as "an area occupied by a species listed as threatened or endangered within which are found physical or geographical features essential to the conservation of the species, or an area not currently occupied by the species which is itself essential to the conservation of the species."

Migratory Bird Treaty Act. All migratory bird species that are native to the U.S. or its territories are protected under the federal Migratory Bird Treaty Act (MBTA), as amended under the Migratory Bird Treaty Reform Act of 2004. The MBTA is makes it illegal to take (pursue, hunt, shoot, wound, kill, trap, capture, or collect) any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid Federal permit.

1.4.2 State Law and Regulations

California Coastal Act. The California Coastal Act of 1976 established the Coastal Zone and appointed the California Coastal Commission to provide long-term protection of California's coastal resources. In partnership with coastal cities and counties, the Coastal Commission plans and regulates the use of land and water in the coastal zone. Development within the Coastal Zone typically requires a Coastal Development Permit from either the Coastal Commission or the local agency overseeing a Local Coastal Program.

California Endangered Species Act. The California Endangered Species Act (CESA), similar to the federal ESA, contains a process for listing of species and regulating potential impacts to listed species. State threatened and endangered species include both plants and wildlife, but do not include invertebrates. The designation "rare species" applies only to California native plants. State threatened and endangered plant species are regulated largely under the Native Plant Preservation Act in conjunction with the CESA. State threatened and endangered animal species are legally protected against "take." The CESA authorizes the California Department of Fish and Wildlife (CDFW) to enter into a memorandum of agreement for take of listed species to issue an incidental take permit for a state-listed threatened and endangered species only if specific criteria are met. Section 2080 of the CESA prohibits the take of species listed as threatened or endangered pursuant to the Act. Section 2081 allows CDFW to authorize take prohibited under Section 2080 provided that: 1) the taking is incidental to an otherwise lawful activity; 2) the taking will be minimized and fully mitigated; 3) the applicant ensures adequate funding for minimization and mitigation; and 4) the authorization will not jeopardize the continued existence of the listed species.

California Environmental Quality Act (CEQA). CEQA requires that biological resources be considered when assessing the environmental impacts that are the result of proposed actions. The lead agencies determine the scope of what is considered an impact and what constitutes an "adverse effect" on a biological resource.

California Native Plant Protection Act. Section 1900-1913 of the California Fish and Game Code contains the regulations of the Native Plant Protection Act of 1977. The intent of this act is to help conserve and protect rare and endangered plants in the state.

Lake and Streambed Alteration. Section 1602 of the California Fish and Game Code requires any person, state, or local governmental agency to provide advance written notification to CDFW prior to initiating any activity that would: 1) divert or obstruct the natural flow of, or substantially change or remove material from the bed, channel, or bank of any river, stream, or lake; or 2) result in the disposal or deposition of debris, waste, or other material into any river, stream, or lake. The state definition of "lakes, rivers, and streams" includes all rivers or streams that flow at least periodically or permanently through a well-defined bed or channel with banks that support fish or other aquatic life, and watercourses with surface or subsurface flows that support or have supported riparian vegetation.

Natural Community Conservation Planning (NCCP) Act of 1991. The NCCP Act is designed to conserve natural communities at the ecosystem scale while accommodating compatible land use. CDFW is the primary state agency that implements the NCCP. The NCCP plan provides for the comprehensive management and conservation of multiple wildlife species. It identifies and

provides for regional protection of natural wildlife diversity while allowing for compatible and appropriate development and growth.

Nesting Birds. Fish and Game Code, Section 3503, states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto," and "unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird" unless authorized.

Regional Water Quality Control Board. The Regional Water Quality Control Board (RWQCB) not only regulates impacts to water quality in federal waters of the U.S. under Section 401 of the Clean Water Act, but they also regulate any isolated waters that are impacted under the state Porter Cologne Act utilizing a Waste Discharge Requirement. Discharge of fill material into waters of the State not subject to the jurisdiction of the USACE pursuant to Section 401 of the Clean Water Act may require authorization pursuant to the Porter Cologne Act through application for waste discharge requirements or through waiver of waste discharge requirements.

1.4.3 Local Plans, Policies and Regulations

Oceano Specific Plan. The Oceano Specific Plan is intended to be used in conjunction with the San Luis Bay Coastal Area Plan but provides greater specificity for the community of Oceano. The Plan was developed with substantial community input, and it identifies issues, guides policies, and sets standards for development and resource protection within the Oceano community.

San Luis Bay Coastal Area Plan. This Plan is a part of the Land Use Element and Local Coastal Program of the San Luis Obispo County General Plan. It is meant to guide development and protect resources within the plan area. The plan identifies Sensitive Resource Areas (SRA), which are also designated as Environmentally Sensitive Habitat Areas (ESHA) as defined by the California Coastal Act. The Oceano area is part of the San Luis Bay Coastal Area Plan.

San Luis Obispo County Local Coastal Program. The Local Coastal Program (LCP) is comprised of the Coastal Zone Land Use Ordinance (CZLUO; Title 23 of the San Luis Obispo County Code) and the San Luis Obispo County General Plan Land Use Element for the Coastal Zone (LUE). The LCP identifies Sensitive Resource Areas (SRA), which are also designated as Environmentally Sensitive Habitat Areas (ESHA) as defined by the California Coastal Act. It sets standards and policies which apply to any and all proposed land use and development activities in the county within the California Coastal Zone, including determining setbacks from wetlands and other sensitive habitats.

2 METHODS

2.1 Literature Review

Relevant literature, including relevant plans, policies, and biological information, was reviewed to determine what biological resources may occur near or in the project area. Research included:

- Queries of special-status species occurrence records;
- Review of literature on sensitive species and biological resources in the project area and region;

A summary of the sources reviewed is provided below.

This report reflects the information provided in the USFWS Information for Planning and Consultation (IPaC) and Critical Habitat Mapper databases, and the National Oceanic and Atmospheric Administration (NOAA) Fisheries critical habitat maps. We conducted a search of the California Natural Diversity Database (CNDDB November 2018 data) and the California Native Plant Society (CNPS) On-line Inventory of Rare and Endangered Plants of California for special status species known to occur in the eight USGS 7.5-minute quadrangles surrounding the Study Area: Pismo Beach, Arroyo Grande NE, Tar Spring Ridge, Oceano, Nipomo, Point Sal, Guadalupe, and Santa Maria.

Additional special status species research consisted of reviewing previous biological reports for the area and searching online museum and herbarium specimen records for locality data within San Luis Obispo. We reviewed online databases of specimen records maintained by the Museum of Vertebrate Zoology at the University of California, Berkeley, the California Academy of Sciences, and the Consortium of California Herbaria. Additional special status species with potential to occur on or near the Study Area were added to our special status species list (refer to Table 3 and Table 4).

Special status species lists produced by database and literature searches were cross-referenced with the described habitat types in the Study Area to identify all potential special status species that could occur on or near the Study Area. Each special status species that could occur on or near the Study Area is individually discussed (refer to Sections 3.7 and 3.8).

After review of the literature, the following criteria were used to determine the potential for special-status species to occur within the Study Area:

- **Present:** The species was observed in the Study Area during field surveys.
- **High Potential:** High habitat quality combined with CNDDB occurrences or other records indicate the species is likely to occur on the Study Area. Individuals may not have been observed in the project area during field surveys; however, the species likely occurs in the project vicinity and could move into the project site in the future.
- **Moderate Potential:** Suitable habitat is present in the Study Area and CNDDB occurrences or surveys have recorded in the vicinity of the project. Individuals were not observed during surveys but the species could be present, at least seasonally or as a transient.
- **Low Potential:** Marginally suitable habitat is present in the Study Area, but there are no occurrence records or only historical (i.e., 50 years or older) records within 10 miles of the

Study Area. Individuals were not observed during surveys and are not expected to be present.

- **No Potential:** Species, sign, or habitat were not observed on the Study Area during surveys and suitable habitat is not present.

2.2 Mapping

Mapping efforts utilized Samsung Galaxy Tab 4 tablets equipped with Garmin GLO GPS Receivers and a third-party mapping application. Biological resource constraints were mapped in the field on site. Hand notation of habitats on high resolution aerials were digitized into polygon layers. Maps were created using aerial photo interpretation, field notation, and spatial data imported to Esri ArcGIS, a Geographic Information System (GIS) software program. Data were overlaid on a 2016 National Agriculture Imagery Program (NAIP) aerial of San Luis Obispo County (NAIP and USDA 2014).

2.3 Surveys

The Study Area was surveyed for biological resources in May 2018, June 2018 and January 2019. Surveys were conducted by biologists Jessica Griffiths, Andy McCrory, Kyle Nessen, and Jacqueline Tilligkeit. Surveys were conducted on foot to compile species lists, search for special status plants and animals, map habitats, and to photograph the Study Area. The entire Study Area was surveyed on foot as described in Section 2.3.1.

TABLE 1. BIOLOGICAL SURVEYS

Survey Date	Biologist(s)	Weather Observations	Activities
5/9/18	Jacqueline Tilligkeit, Andy McCrory	55-60 F, sunny, wind 0-3 mph	Botanical survey
5/23/18	Kyle Nessen	55 F, overcast, wind 0-3 mph	Botanical survey
6/7/18	Jessica Griffiths	60 F, sunny, wind 0-3 mph	Wildlife survey
1/2/19	Jacqueline Tilligkeit, Kyle Nessen	55 F, sunny, wind 0-3 mph	Botanical survey

2.3.1 Botanical

Each habitat type occurring in the Study Area was inspected, described, and catalogued (Section 3.4). All plant and animal species observed in the Study Area were identified and recorded (Sections 3.9 and 3.10). Reconnaissance transects were meandering with an emphasis on locating habitat appropriate for special status plants. Transects were utilized to map boundaries of different vegetation types, describe general conditions and dominant species, compile species lists, and evaluate potential habitat for special status species. Identification of botanical resources included field observations and laboratory analysis of collected material (refer to Table 5). Botanical surveys were conducted on May 9th and 23rd, 2018 and January 2nd, 2019 according to agency guidelines (USFWS 2000; CNPS 2001; CDFW 2018c). Botanical surveys were appropriately timed to identify all special status plant species known from the region (refer to

Section 3.7 and Table 3) that have potential to occur in the Study Area. Botanical nomenclature used in this document follows the Jepson eFlora (Jepson Flora Project (eds.) 2019).

2.3.2 Wildlife

Wildlife documentation included observations of animal presence and wildlife sign such as nests, tracks, and scat. Observations of wildlife were recorded during field surveys in all areas of the Study Area (refer to Table 6). Birds were identified by sight, using 10-power binoculars, or by vocalizations. Reptiles and amphibians were identified by sight; traps were not used. Mammals recorded in the Study Area were identified by sight and by tracks and sign; traps were not used.

2.4 Soils

A custom soil report was created by importing the Study Area as an Area of Interest (AOI) into the Natural Resources Conservation Service (NRCS) Soil Survey Geographic Database (SSURGRO) via their online portal (USDA and NRCS 2019). The exported custom soil report includes a map showing an overlay of the soil map units within the AOI as well as a description of each (see Appendix A).

3 RESULTS

3.1 Regional Context

The Study Area is located approximately 10 miles south of the city of San Luis Obispo and is immediately west of the unincorporated community of Oceano. The Oceano Lagoon and Pismo State Beach are located to the north, while the Pismo dunes stretch away to the south. The airport is less than 1000 feet east from the beach and the Oceano Dunes State Vehicular Recreation Area (SRVA). Arroyo Grande Creek flows past the southern edge of the Study Area, then flows west for half a mile until it meets the Pacific Ocean. The entire region is a mosaic of dunes, sand, and wetlands.

3.2 Existing Conditions

The Study Area is on Oceano County Airport, which is bordered by Oceano Memorial Campground and Oceano Lagoon to the north, a water treatment plant and Arroyo Grande Creek to the south, Meadow Creek to the west, and residential and light industrial development to the east. The Airport has one paved runway which is 2,325 long and 50 feet wide, and a parallel taxiway to the southwest which is approximately 20 feet wide. Parallel to the runway on the northeast is a wide area of tarmac for parking vehicles and airplanes, with a row of hangars along the northeast edge of the tarmac. A paved vehicle parking lot is located outside the entrance to the Airport, at the north end of the Study Area.

The Study Area is primarily annual grassland with coastal brackish marsh interspersed within. These habitats are periodically mowed in and around the runway and taxiways for vegetation management. Along the perimeter of tarmac is ruderal habitat where vegetation is sparse. Arroyo willow riparian woodland occurs along two bordering streams, Arroyo Grande Creek and Meadow Creek, on the southwest border of the Study Area. Ornamental trees grow in small numbers near the vehicle access point for the Study Area and adjacent to Oceano Memorial Campground. Mats of iceplant occur within some areas of annual grassland, primarily in the southeastern portion of the Study Area.

3.3 Soils

One individual soil map unit from the Natural Resource Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO) overlaps the Study Area, Mocho fine sandy loam (0 to 2 percent slopes) (USDA and NRCS 2019). A custom soil report for the Study Area is included in Appendix A.

3.4 Habitat Types

Table 2 lists seven habitat types described and mapped within the Study Area (see Figure 3 in Section 6). Most of the Study Area, approximately 22.32 acres, is mapped as annual grassland. Anthropogenic habitat composed of runways, taxiways, tarmac, and buildings comprises 10.43 acres. The remaining area primarily consists of coastal brackish marsh (approximately 4.7 acres) and arroyo willow riparian woodland habitat (approximately 1.56 acres). Ruderal (approximately 1.02 acres), iceplant mats (approximately 0.67 acre), and non-native ornamental trees (approximately 0.27 acre) occupy the rest of the Study Area.

TABLE 2. HABITAT TYPES

Habitat Type	Location	Approximate Acreage
Annual Grassland	Throughout Study Area	23.42
Coastal Brackish Marsh	Throughout Study Area	4.67
Arroyo Willow Riparian Woodland	Creeks bordering Study Area	1.56
Ruderal	Perimeter around tarmac, runway and taxiways	0.98
Iceplant Mats	Within annual grassland, southeastern portion of Study Area	0.67
Non-Native Ornamental Trees	Small stand adjacent to Oceano Memorial Campground	0.27
Anthropogenic	Paved areas in central and northern part of Study Area	10.51

3.4.1 Annual Grassland

Annual grassland habitat is the dominant habitat within the Study Area and is present on approximately 23.42 acres. Non-native grasses such as ripgut brome (*bromus diandrus*), and Bermuda grass (*Cynodon dactylon*) are dominant within this habitat, as well as non-native forbs such as wild radish (*Raphanus sativus*), summer mustard (*Hirschfeldia incana*), and hairy vetch (*Vicia villosa*). Annual grassland within the Study Area is mowed regularly for maintenance purposes.

3.4.2 Coastal Brackish Marsh

Coastal brackish marsh is found in low depressions throughout the Study Area and occupies approximately 4.67 acres. This habitat occurs along the coast where freshwater from streams mixes with salt water from the ocean, creating gradients of brackish wetland. This habitat is dominated by pickleweed (*Salicornia pacifica*), salt grass (*Distichlis spicata*), marsh jaumea (*Jaumea carnosa*), and alkali heath (*Frankenia salina*). In areas of lower salinity, common threesquare (*Schoenoplectus pungens*), Mexican rush (*Juncus mexicanus*), and beardless wild rye (*Elymus triticoides*) become dominant. The areas of coastal brackish marsh near the runway are mowed regularly for maintenance purposes.

3.4.3 Arroyo Willow Riparian Woodland

Arroyo Willow riparian forest is found primarily along Meadow Creek and Arroyo Grande Creek and occurs on approximately 1.56 acres within the Study Area. Vegetation is dominated by an overstory of Arroyo willow (*Salix lasiolepis*) with dense thickets of blackberry (*Rubus ursinus*) underneath. Canary ivy (*Hedera canariensis*) is abundant in this habitat near the wind cone.

3.4.4 Ruderal

Ruderal habitat occurs along a three to ten-foot clearing around the tarmac, runway and taxiways within the Study Area, occupying approximately 0.98 acres. Ruderal areas are primarily bare ground with non-native forbs such as telegraph weed (*Heterotheca grandiflora*) and Jersey cudweed (*Pseudognaphalium luteoalbum*). Minimal native herbaceous vegetation, such as strigose lotus (*Acmispon strigosus*), is present. Ruderal habitat within the Study Area is mowed regularly for maintenance purposes.

3.4.5 Iceplant Mats

The introduced succulent, iceplant (*Carpobrotus edulis*), forms dense mats where it has become established and can invade a variety of habitats. Iceplant mats occupy approximately 0.67 acres within the Study Area. Native vegetation is not present in this habitat and only sparsely occurring introduced species, such as Curly dock (*Rumex crispus*), are found within the mats. Iceplant is found growing near the wind cone and the southeastern end of the runway.

3.4.6 Non-native Ornamental Trees

Non-native ornamental trees are found along the fenced border with Oceano Memorial Campground and occupies approximately 0.27 acres of the Study Area. Monterey Cypress (*Hesperocyparis macrocarpa*), Ngaio tree (*Myoporum laetum*), and Sydney golden wattle (*Acacia longifolia*) are the dominant overstory trees with a non-native weedy understory.

3.4.7 Anthropogenic

Buildings and paved surfaces including runways, taxiways, and parking lots comprise approximately 10.51 acres of the Study Area. There is one runway which is 2,325 long and 50 feet wide, and a parallel taxiway which is approximately 20 feet wide. North of the runway is a parking area for vehicles and airplanes, and hangars are located along the northeast edge of the tarmac. A paved parking lot is located outside the Airport entrance.

3.5 Potential Wetlands and Jurisdictional Waters

Althouse and Meade, Inc. performed a wetland delineation for the Study Area in January (Althouse and Meade, Inc 2019). This work resulted in delineation of 6.24 acres of federal jurisdictional waters, also subject to state and local jurisdiction, within the Study Area. Wetlands identified in Exhibit A of the wetland delineation are mapped in the Study Area as coastal brackish marsh and riparian woodland (Figure 3).

Three-parameter jurisdictional wetland habitat is present within the Study Area. These wetland features are palustrine emergent (Cowardin et al. 1979) wetlands dominated by multi-stem arroyo willows and/or hydrophytic herbs. The hydrology that supports these wetlands is a combination of runoff from the airport and a high-water table due to the location. The airport was built at the confluence of two major creeks as they terminate at the Pacific Ocean. This would typically support an estuarine environment of marshland and willow woodlands but was filled to build the airport.

3.6 Habitat Connectivity and Wildlife Movement

Wildlife corridors and habitat connectivity are important for the movement of wildlife between different populations and habitats. The Study Area is largely open with minimal structures on site. Existing fencing around the perimeter of the Study Area is the largest barrier to habitat connectivity, preventing access between the Study Area and adjacent creeks for certain wildlife. Expanding the runway would not impact wildlife movement beyond preexisting conditions.

3.7 Special Status Plant Species

Research on special status plant occurrences conducted within the designated search area (refer to Methods) determined 79 special status plant species are known to occur in the region (refer to Appendix B). The IPaC database lists a total of eight threatened, endangered, or candidate plant species in the vicinity of the Study Area (see Appendix D). Appropriate habitat and soil conditions are present in the Study Area for six special status plants (Table 3). Figure 4 and Figure 6 in Section 7 depict the current GIS data for special status plant species and federally designated critical habitat mapped within a 5-mile radius of the Study Area by the CNDDB and the USFWS. No critical habitat for federally listed plant species is present within the Study Area.

3.7.1 Introduction to California Rare Plant Ranks

Plant species are considered rare when their distribution is confined to localized areas, when there is a threat to their habitat, when they are declining in abundance, or are threatened in a portion of their range. The California Rare Plant Rank (CRPR) categories range from species with a low threat (CRPR 4) to species that are presumed extinct (CRPR 1A). The plants of CRPR 1B are rare throughout their range. All but a few species are endemic to California. All of them are judged to be vulnerable under present circumstances, or to have a high potential for becoming vulnerable.

3.7.2 Introduction to CNDDB Definitions

"Special Plants" is a broad term used to refer to all the plant taxa inventoried by the CNDDB, regardless of their legal or protection status (CDFW 2018). Special plants include vascular plants, high priority bryophytes (mosses, liverworts, and hornworts), and lichens.

3.7.3 Potential Special Status Plant List

Table 3 lists six special status plant species that could potentially occur in the Study Area. Federal and California State status, global and State rank, and CNPS rank status for each species are given. Also included are typical blooming periods, habitat preference, potential to occur on site, whether the species was detected in the Study Area, and effect of proposed activity. A comprehensive list of special status plant species reviewed is included as Appendix B.

TABLE 3. SPECIAL STATUS PLANT LIST

	Common Name	Scientific Name	Federal/State Status Global/State Rank CA Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur
1.	**San Luis Obispo Owl's-clover**	*Castilleja densiflora* var. *obispoensis*	None/None G5T2/S2 1B.2	March - May	Coastal grassland, <100 m. Endemic to SLO County.	Low. Grassland is present in Study Area, but it is highly disturbed.
2.	**La Graciosa Thistle**	*Cirsium scariosum* var. *loncholepis*	FE/CT G5Ti/S1 1B.1	May - August	Marshes, dune wetlands; <50m. s CCo (sw San Luis Obispo, nw Santa Barbara counties)	Low. Wetland habitat is present but habitat is highly disturbed.
3.	**Paniculate Tarplant**	*Deinandra paniculata*	None/None G4/S4 4.2	(March) April - November	Grassland, open chaparral and woodland, often in sandy soils; <1320 m. s CCo, s SCoRO, SCo, WTR, PR	Low. Grassland is present in Study Area, but it is highly disturbed.
4.	**Gambel's Water Cress**	*Nasturtium gambelii*	FE/CT G1/S1 1B.1	April - October	Marshes, stream banks, lake margins; <1250 m. s CCo, SCo, to Mexico	Low. Wetland habitat is present but highly disturbed.
5.	**Black-Flowered Figwort**	*Scrophularia atrata*	None/None G2?/ S2? 1B.2	March - July	Closed-cone coniferous forest, riparian scrub, dune habitats; in sand, diatomaceous shales, calcareous and other soil types. 10-250 m. s SCoRO	Low. Riparian habitat and sandy soils are present in Study Area, but habitat is highly disturbed.
6.	**San Bernardino Aster**	*Symphyotrichum defoliatum*	None/None G2/S2 1B.2	July - November	Vernally mesic grasslands near ditches, streams, springs, or disturbed areas; 2-2040 m.	Low. Potentially suitable habitat is present in the Study Area, but Study Area is outside the confirmed range for this species.

California Geographic Subregion Abbreviations:
CCo: Central Coast WTR: Western Transverse Ranges SLO: San Luis Obispo

SCo: South Coast
SCoRO: Outer South Coast Ranges
NCoR: North Coast Ranges
PR: Peninsular Range

Federal/State Status Abbreviations

FE: Federally Endangered CE: California Endangered CT: California Threatened

California Rare Plant Ranks:

CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
CRPR 4: Plants of limited distribution - a watch list

CRPR Threat Ranks:

0.1 - Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2 - Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3 - Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

3.7.4 Discussion

Based on an analysis of known ecological requirements for the special status plant species reported from the region (see Appendix B), and the habitat conditions that were observed in the Study Area, it was determined that six special status plant species have low potential to occur in the Study Area (San Luis Obispo owl's-clover, La Graciosa thistle, paniculate tarplant, Gambel's yellowcress, black-flowered figwort, San Bernardino aster). We discuss these species below and describe habitat, range restrictions, known occurrences, and survey results for the Study Area.

A. San Luis Obispo Owl's-clover (*Castilleja densiflora* ssp. *obispoensis*) is a CRPR 1B.2 subspecies endemic to San Luis Obispo County. It is known to occur in coastal grasslands on sandy or clay soils below 400 meters elevation. It is an annual hemi-parasitic herb that typically blooms between March and May. The closest known record is approximately 2.8 miles north of the Study Area (CNDDB #2). The habitat in the Study Area is potentially suitable for this species, but it is unlikely to occur because of frequent disturbance to annual grassland within the Study Area. San Luis Obispo Owl's clover was not detected in the Study Area during the 2018 or 2019 surveys.

B. La Graciosa Thistle (*Cirsium scariosum* var. *loncholepis*) is listed as Endangered by the Federal Endangered Species Act (FESA), listed as Threatened by the California Endangered Species Act (CESA) and is a CRPR 1B.1 variety. It is endemic to northwestern Santa Barbara County and southwestern San Luis Obispo County. It is known to occur in coastal marshes and swamps within dunes habitat, as well as in coastal scrub, grassland and cismontane woodland habitats. It is a perennial herb that typically blooms between May and August between 4- and 220-meters elevation. The closest known record is from 1969 and approximately 0.2 miles north of the Study Area (CNDDB #14); this population is now presumed to be extirpated. Federally designated critical habitat for this species is found in the Pismo Dunes approximately 0.2 miles south of the Study Area. The arroyo willow habitat in the Study Area is marginally suitable for this species, but it is unlikely to occur due to frequent disturbance and habitat alteration. La Graciosa thistle was not detected in the Study Area during the 2018 or 2019 surveys.

C. Paniculate Tarplant (*Deinandra paniculata*) is a CRPR 4.2 species known from the San Francisco Bay area south to northern Baja California. It is known to occur on sandy soils in grassland, coastal scrub, vernal pool and wetland habitats between 25- and 940-meters elevation. It is an annual herb that typically blooms between June and September. The closest known record is approximately 4.9 miles south of the Study Area (CCH # RSA699628). The soil in the Study Area is potentially suitable for this species, however, suitable associated habitats are not present within the Study Area, and the species is unlikely to occur. Paniculate tarplant was not detected in the Study Area during the 2018 or 2019 surveys.

D. Gambel's Water Cress (*Nasturtium gambelii*) is listed as Endangered by the Federal Endangered Species Act (FESA), listed as Endangered by the California Endangered Species Act (CESA) and is a CRPR 1B.1 species. It is known to occur in freshwater marshes, streambanks, and lake margins. It is a perennial herb that typically blooms between April and October and occurs below 350 meters elevation. The closest known record is from 1949 and is approximately 0.1 miles west of the Study Area (CNDDB #16); it is now presumed to be extirpated. The habitat in the Study Area is marginally suitable for this species, but it is

unlikely to occur because of frequent disturbance and habitat alteration. Gambel's water cress was not detected in the Study Area during the 2018 or 2019 surveys.

E. Black-flowered Figwort (*Scrophularia atrata*) is a CRPR 1B.2 species endemic to Santa Barbara and San Luis Obispo Counties. It is known to occur in coast dune, coastal scrub, riparian scrub, chaparral, and closed-cone coniferous forest habitats between 10 and 500 meters elevation. It is a perennial herb that typically blooms between March and July. The closest known record is approximately 2.3 miles north of the Study Area (CNDDB #32). The riparian habitat in the Study Area is marginally suitable for this species, but it is unlikely to occur because of frequent disturbance around riparian habitat. Black-flowered figwort was not detected in the Study Area during the 2018 or 2019 surveys.

F. San Bernardino Aster *(Symphyotrichum defoliatum)* is a CRPR 1B.2 species native to California. It is known to occur in mesic grassland and disturbed places below 2050 meters elevation. It is a perennial herb that typically blooms between July and November. The closest known record is approximately 1.8 miles southeast of the Study Area (CNDDB #44), however the identification of this specimen remains uncertain. The habitat in the Study Area is potentially suitable for this species, but the Study Area occurs well outside its known range, and this species is unlikely to occur. San Bernardino aster was not detected in the Study Area during the 2018 or 2019 surveys.

The remaining 73 special status plant species that were evaluated were determined to have no potential to occur in the Study Area due to lack of suitable habitat present. However, four of these species either are listed or are candidates for listing as threatened or endangered under the Federal Endangered Species Act (FESA) and/or California Endangered Species Act (CESA). Therefore, although they are not expected to occur, these species also warrant further discussion:

A. Marsh Sandwort (*Arenaria paludicola*) is listed as Endangered under the federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA) and is a CRPR 1B.1 species. It is known to occur in marshes, swamps and areas that are wet year-round below 300 meters elevation. It is a perennial herb that typically blooms between May and August. The only known naturally occurring population of marsh sandwort is found at Oso Flaco Lake in San Luis Obispo County (CDFW 2013). The closest known record is from 1949 and is approximately 1.9 miles north of the Study Area (CNDDB #12); it is now presumed extirpated. The habitat in the Study Area is not suitable for this species because perennial wetland habitats such as freshwater marshes or swamps are not present within the Study Area. Marsh sandwort was not detected in the Study Area during the 2018 or 2019 surveys.

B. Surf Thistle (*Cirsium rhothophilum*) is listed as a Threatened species by the California Endangered Species Act (CESA) and is a CRPR 1B.2 species endemic to southern San Luis Obispo and northern Santa Barbara Counties. It is known to occur in coastal bluff and dune habitats between 3 and 60 meters elevation. It is a perennial herb that typically blooms between April and June. The closest known record is approximately 1.5 miles north of the Study Area (CNDDB #15). The habitat in the Study Area is not suitable for this species because open dune habitat is not present. Surf thistle was not detected in the Study Area during the 2018 or 2019 surveys.

C. Pismo Clarkia (*Clarkia speciosa* ssp. *immaculata*) is listed Endangered species under FESA, is listed Rare by the State of California under the Native Plant Protection Act (NPPA) and is a

CRPR 1B.1 subspecies that is endemic to southern San Luis Obispo County. It is known to occur on sandy soils in valley and foothill grasslands, openings in chaparral, and cismontane woodland habitats between 25- and 185-meters elevation. It is an annual herb that typically blooms between May and July. The closest known record is approximately 1.8 miles north of the Study Area (CNDDB #6). The habitat in the Study Area is not suitable for this species because it occurs in drier habitats not found within the Study Area. Pismo clarkia was not detected in the Study Area during the 2018 or 2019 surveys.

D. Beach Spectaclepod (*Dithyrea maritima)* is listed as Threatened by the California Endangered Species Act (CESA) and is a CRPR 1B.1 species known to occur along seashores and in coastal sand dunes. The closest known record is approximately 1.5 miles northwest of the Study Area (CNDDB #13). The habitat in the Study Area is not suitable for this species because coastal strand and sand dunes are not present within the Study Area. Beach spectaclepod was not detected in the Study Area during the 2018 or 2019 surveys.

3.8 Special Status Animal Species

Research on special status animal occurrences conducted within the designated search area (see Methods) determined 39 special status animal species are known to occur in the region (refer to Appendix C). The IPaC database lists a total of 15 threatened, endangered, or candidate animal species in the vicinity of the Study Area (see Appendix D). Appropriate habitat conditions are present in the Study Area for eight special status animals (Table 4). Figure 5 and Figure 6 in Section 7 depict the current GIS data for special status wildlife species and federally designated critical habitat mapped within a 5-mile radius of the Property by the CNDDB and the USFWS. No critical habitat for federally listed animal species is present within the Study Area.

3.8.1 Introduction to CNDDB Definitions

"Special Animals" is a general term that refers to all of the animal taxa inventoried by the CNDDB, regardless of their legal or protection status (CDFW 2018a). The Special Animals list is also referred to by CDFW as the list of "species at risk" or "special status species." These taxa may be listed or proposed for listing under the California and/or Federal Endangered Species Acts, but they may also be species deemed biologically rare, restricted in range, declining in abundance, or otherwise vulnerable.

Animals listed as California Species of Special Concern (SSC) may or may not be listed under California or Federal Endangered Species Acts. They are considered rare or declining in abundance in California. The Special Concern designation is intended to provide the California Department of Fish and Wildlife, biologists, land planners and managers with lists of species that require special consideration during the planning process to avert continued population declines and potential costly listing under federal and state endangered species laws. For many species of birds, the primary emphasis is on the breeding population in California. For some species that do not breed in California but winter here, emphasis is on wintering range. The SSC designation thus may include a comment regarding the specific protection provided such as nesting or wintering.

Animals listed as Fully Protected are those species considered by CDFW as rare or faced with possible extinction. Most, but not all, have subsequently been listed under the California Endangered Species Act (CESA) or the Federal Endangered Species Act (FESA). Fully Protected

species may not be taken or possessed at any time and no provision of the California Fish and Game code authorizes the issuance of permits or licenses to take any Fully Protected species.

3.8.2 *Potential Special Status Animals List*

Table 4 lists eight special status animal species reported from the region. Federal and California State status, global and State rank, and CDFW listing status for each species are given. Typical nesting or breeding period, habitat preference, potential habitat on site, whether the species was detected in the Study Area, and effect of proposed activity are also provided. A comprehensive list of special status animal species reviewed is included as Appendix C.

TABLE 4. SPECIAL STATUS ANIMAL LIST

	Common Name	Scientific Name	Federal/State Status Global/State Rank CDFW Status	Habitat Preference	Potential to Occur
1.	**Burrowing Owl**	*Athene cunicularia*	None/None G4/S3 SSC	Burrows in squirrel holes in open habitats with low vegetation.	Low. Study Area has a low number of ground squirrel burrows.
2.	**Obscure Bumble Bee**	*Bombus caliginosus*	None/None G4?/S1S2 SA	Open coastal grasslands and meadows.	Low. Potentially suitable habitat is present in Study Area.
3.	**Western Bumble Bee**	*Bombus occidentalis*	None/None G2G3/S1 SA	Wide variety of natural, agricultural, urban, and rural habitats. Flower-rich meadows of forests and subalpine zones.	Low. Potentially suitable habitat is present in Study Area.
4.	**White-tailed Kite**	*Elanus leucurus*	None/None G5/S3S4 FP	Nests in dense tree canopy near open foraging areas	Moderate. Suitable nesting habitat is not present in the Study Area, but suitable foraging habitat is present.
5.	**California Black Rail**	*Laterallus jamaicensis coturniculus*	None/Threatened G3G4T1/S1 Fully Protected	Occurs in tidal salt marsh heavily grown to pickleweed, also in freshwater and brackish marshes near the coast.	Low. Sub-optimal salt marsh habitat is present in the Study Area.
6.	**California Red-Legged Frog**	*Rana draytonii*	Threatened/None G2G3/S2S3 SA	Lowlands and foothills in or near sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks for larval development.	Low. There is no suitable breeding habitat present in the Study Area. Transient individuals may occur in upland habitat, but because there are two roads between the Study Area and the closest known occurrence, CRLF are unlikely to occur.
7.	**Yellow Warbler***	*Setophaga petechia brewsteri*	None/None G5/S3S4 SSC	Nests in riparian plant associations, including willows, cottonwoods, etc.	High. There is marginal breeding habitat within the Study Area, but suitable foraging habitat is present.
8.	**American Badger**	*Taxidea taxus*	None/None G5/S3 SSC	Needs friable soils in open ground with abundant food source such as California ground squirrels.	Low. California ground squirrels are present but not abundant.

Habitat characteristics are from the CNDDB.
*not listed in the CNDDB for the search area, but possibly for the location.
Abbreviations: FT: Federally Threatened; SSC: CDFW Species of Special Concern; SA: CDFW Special Animal; FP: CDFW Fully Protected

3.8.3 Discussion

Based on an analysis of known ecological requirements for the 39 special-status wildlife species reported or known from the region, and the habitat conditions that were observed in the Study Area, it was determined that two species have high or moderate potential to occur (white-tailed kite and yellow warbler), and six species have a low potential to occur in the Study Area (burrowing owl, obscure bumblebee, western bumblebee, California black rail, California red-legged frog, and American badger). We discuss a total of eight species below and describe habitat, range restrictions, known occurrences, and survey results for the Study Area.

The following two special status species were present or have moderate potential to occur within the Study Area:

A. White-tailed Kite (*Elanus leucurus*) is a CDFW Fully Protected species that can be found throughout California but known to forage and nest in certain areas of California in fluctuating numbers (CDFW 2018b; Lehman 2018). The species nests primarily in evergreen trees, especially coast live oaks, near meadows, marshes, farmlands or grasslands where it forages on small animals, especially voles (Dunk 1995). Communal nocturnal roosts sites, which may shift in location, are often used from early fall to early winter. The closest reported occurrence of nesting white-tailed kite is located approximately 9.9 miles north of the Study Area (CNDDB #169), though this species is frequently seen foraging in the immediate vicinity of the Study Area (eBird 2019). Due to the lack of suitably large trees, this site has no potential to support nesting white-tailed kite. There is suitable foraging habitat in the grassland and coastal brackish marsh within the Study Area. White-tailed kite was not observed in the Study Area during 2018 or 2019 site surveys.

B. Yellow Warbler (*Setophaga petechia*) is a California Species of Special Concern (nesting locations only). The Global Rank of this species is G5 (Secure) whereas its State Rank is S3S4, meaning it is uncertain whether yellow warbler can be considered Vulnerable (S3) or Apparently Secure (S4) in the state of California (NatureServe 2019). Because it favors second growth and edges, yellow warbler is not as vulnerable to loss of habitat as some warblers (Audubon Society 2014). Yellow warbler winters in Central and South America and migrates to North America during the spring/summer breeding period. Their warm-weather breeding range is generally restricted to Central and Southern California. Yellow warbler frequents riparian habitats where it nests in sycamores, cottonwoods, willows, alders, ash and other riparian trees. There is marginal nesting habitat for yellow warblers in the riparian woodland patches in the southern part of the Study Area; these areas are not large or dense enough to be favorable nesting habitat. Yellow warbler was observed foraging in the riparian woodland during one of the 2018 site surveys and is likely to be present in spring and fall during migration.

The following six special status species have low potential to occur in the Study Area. Various factors contribute to these species being less likely to occur, including (but not limited to) outdated occurrences in the area, less suitable habitat, and/or fewer ecological requirements present:

C. Burrowing Owl (*Athene cunicularia*) is a California Species of Special Concern. It is a small, rare owl that occupies abandoned mammal holes in the ground, most notably those of the California ground squirrel (*Spermophilus beecheyi*). In California, the burrowing owl is a year-

round resident in the Carrizo Plain, Central Valley, Imperial Valley and the San Francisco Bay region. In the winter months, burrowing owl individuals from other western populations will augment the year-round Californian populations(Shuford and Gardali 2008). The breeding season is generally from March through August. Suitable habitat types for the burrowing owl are dry, open annual or perennial grasslands and deserts with an abundance of burrows (CDFW 2014; CDFW 2018). More specifically, the owl is found in coastal prairie, coastal scrub, great basin, Mojavean and Sonoran Desert scrub and great basin, valley and foothill grassland habitats (CDFW, 2018). The burrowing owl commonly nests in abandoned holes in the ground, most notably those of the California Ground squirrel, but the owl is also known to inhabit badger and fox dens and man-made holes, such as pipes and culverts. Rarely, it has been known to dig its own burrow in softer soil types (Coulombe 1971; Gervais et al. 2008). *Orthoptera* are the main food source for the owl but it will also consume other insects, as well as amphibians, carrion, small mammals, reptiles and birds (York et al. 2002; Gervais et al. 2008; CDFW 2014). The closest reported occurrence of the burrowing owl is approximately 8.6 miles south of the Study Area (CNDDB #794). Due to the fact that the Study Area contains few burrows and (except after mowing) consists of high, dense vegetation rather than the short, open grassland vegetation they prefer, the site is unlikely to support burrowing owl. Burrowing owl was not observed in the Study Area during 2018 or 2019 site surveys.

D. Obscure Bumblebee (*Bombus caliginosus*) is designated by California Department of Fish and Wildlife (CDFW) as a Special Animal and has a Global Rank of G4 and a State Rank of S1S2 (NatureServe 2018a). The State Rank of S1S2 is indicative of uncertainty regarding whether this species is Critically Imperiled or Imperiled, meaning the taxon is between rare and extremely rare due to steep declines, restricted range, minimal populations (5-20 or fewer), and/or other factors making it very vulnerable to extirpation from the state. The species' Global Rank indicates that it is Apparently Secure (CDFW 2018), meaning it is uncommon but not rare, though there is some cause for long-term concern due to declines or other factors such as climate change, habitat loss, and disease (Williams and Osborne 2009; Fürst et al. 2014). It is considered uncommon throughout its range, which stretches along the Pacific Coast from southern British Columbia to southern California with scattered occurrence records from the east side of California's Central Valley. Obscure bumble bee inhabits open coastal grasslands and meadows with colonies occurring underground and/or in abandoned bird's nests. The closest reported occurrence of Obscure bumblebee was in 1956 and was located approximately 1.2 miles north of the Study Area (CNDDB #164). Due to the marginal habitat present, and the age of the nearest record, this species has low potential to occur. Obscure bumblebee was not observed in the Study Area during 2018 or 2019 site surveys, though focused insect surveys were not conducted as part of this study.

E. Western Bumblebee (*Bombus occidentalis*) is neither federally nor state listed; however, it is a designated Sensitive species under the United States Forest Service (USFS), and it has a Global Rank of G2G3 (imperiled and vulnerable) and a State Rank of S1 (critically imperiled). According to NatureServe (2018b), the overall global rank of the species has to be G4 because one or two of the subspecies appears to be secure based on substantial information from 2009 and more recently. However, Western bumble bee is clearly not secure in most of its range. The conservation status of the two subspecies appears to be very different and each is now (as of 2014) ranked and document separately. Though once widespread, disease is stipulated to be the cause of the precipitous decline in this species from southern British Columbia to central California. The closest reported occurrence of western bumblebee was in 1936 and was located

approximately 7 miles northwest of the Study Area (CNDDB #279). Due to the age of the nearest record and the uncertain status of obscure bumblebee in the area, this species has low potential to occur. Western bumblebee was not observed in the Study Area during 2018 or 2019 site surveys, though focused insect surveys were not conducted as part of this study.

F. California Black Rail (*Laterallus jamaicensis coturniculus*) is a California Threatened and CDFW Fully Protected species. It occurs most commonly in tidal salt marshes dominated by pickleweed, but also in freshwater and brackish coastal marshes. In brackish marshes it is found in areas supporting bulrushes and pickleweed, and in freshwater it is found in bulrushes, cattails, and saltgrass (CDFW 2014). Most California populations are non-migratory, and forage, breed, and overwinter in the same habitat. In tidal areas where high tides may force them to leave marsh habitat, they require dense upland habitat. They feed on a variety of insects as well as snails and seeds (Eddleman et al. 1994). They nest in dense vegetation, often pickleweed, above the upper limits of tidal flooding. The closest reported occurrence of California black rail is located approximately 2.1 miles southeast of the Study Area (CNDDB #73) in the Dune Lakes area. Due to the frequent mowing and disturbance around the coastal brackish marsh habitat in the Study Area and the lack of large dense pickleweed mats and tidal marsh habitat, this species is unlikely to occur within the Study Area. California black rail was not observed in the Study Area during 2018 or 2019 site surveys.

G. California Red-legged frog (*Rana draytonii*) is a federally listed threatened species and a California Species of Special Concern. It occurs in California in the Coast Range, Sierras, the Transverse Range and south below 1,200 meters elevation (Sousa 2008; CDFW 2014). The main habitat types for the CRLF are deep, still or slow-moving sources of water in lowlands and foothills with shrubby, riparian, or vegetative shorelines for cover (Jennings and Hayes 1994; CDFW 2014; CDFW 2018). The most suitable vegetation types for cover are cattails (*Typha sp.*), arroyo willow (*Salix lasiolepis*) and bulrushes (*Scirpus sp.*) (Jennings and Hayes 1994). Along with its aquatic habitat, the CRLF also utilizes upland habitat for seeking food, shelter and as migration corridors between breeding and non-breeding sites. Bulger et al. (2003) found that during dry summer months, CRLF were nearly always within 5 meters of a pond; however during summer rain events and early winter rains, frogs moved up to 130 meters from their ponds, and some frogs even traveled up to 2800 meters to migrate to a different pond. When out of the water the CRLF will shelter under natural or manmade debris and burrow into moist leaf litter or small animal burrows (USFWS 2010). The breeding season for the CRLF is from January to July with a peak in February (CDFW 2014). One major cause of CRLF population decline is the introduction of the bullfrog (*Rana catesbeiana*) which can consume and exhaust CRLF resources (Sousa 2008). The closest reported occurrence of CRLF is in Arroyo Grande Creek, which at its closest point is only 200 feet southeast of the Study Area (CNDDB #496). There is no suitable aquatic or breeding habitat for CRLF in the Study Area. Because CRLF are capable of moving over a mile through upland habitat between breeding areas, there is potential for individuals to move into the Study Area from Arroyo Grande Creek. While there are no known CRLF breeding locations on the north side of the Study Area that frogs would move toward, Oceano Lagoon could attract dispersing juvenile CRLF. Oceano Lagoon is not suitable breeding habitat because of the high number of bullfrogs present. Additionally, there are two roads between Arroyo Grande Creek and the airport perimeter, and it is unlikely but possible that a frog may cross these roads. Therefore, it is unlikely but possible for CRLF to be present in upland areas within the Study Area. No CRLF

or appropriate aquatic habitat were observed within the Study Area during 2018 or 2019 site surveys.

H. American badger (*Taxidea taxus*) is a California Species of Special Concern with a widespread range across the state (Brehme et al. 2015; CDFW 2018a). It is a permanent but uncommon resident in all parts of California, except for forested regions of the far northwestern corner, and is more abundant in dry, open areas of most shrub and forest habitats (CDFW 2018). The American badger requires friable soil in order to dig burrows for cover and breeding. The main food source for the species is fossorial rodents, mainly ground squirrels and pocket gophers. The breeding season for badgers is in summer and early fall, and females give birth to litters usually in March and April (CDFW 2014). The closest reported occurrence of the American badger is located approximately 3 miles northeast of the Study Area (CNDDB #200). Due to the low abundance of potential prey, the small size of the grassland area, and the relatively urban setting of the Study Area, badgers are unlikely to occur. No American badger or sign of badger, such as dens or dig-outs, was observed during 2018 or 2019 site surveys.

The remaining 31 special status animal species that were evaluated were determined to have no potential to occur in the Study Area due to lack of suitable habitat present. However, three of these species are listed as threatened or endangered under the Federal Endangered Species Act (FESA) and have federally designated critical habitat in the immediate vicinity of the Study Area (see Figure 6). Therefore, although these species are not expected to occur, they warrant further discussion:

A. Steelhead Trout (*Oncorhynchus mykiss irideus***)** is the anadromous form of rainbow trout. Steelhead in the South/Central California Coast Distinct Population Segment (SCCCDPS) are federally threatened, and include naturally-spawned *O. mykiss* occurring downstream from natural and manmade barriers from the Pajaro River, south to but not including the Santa Maria River. A Distinct Population Segment (DPS) is a group of steelhead that is genetically distinct from other California steelhead populations. Steelhead are known to occur in coastal streams and rivers in San Luis Obispo County, including but not limited to Arroyo Grande Creek, Pismo Creek, San Luis Obispo Creek, Chorro Creek, San Simeon Creek, and other coastal streams. Steelhead are known to occur in the Salinas River and its tributaries from Monterey south to the vicinity of Santa Margarita. The Salinas River and coastal streams in San Luis Obispo County are critical habitat for migrating steelhead. Steelhead generally require cool, fast- flowing streams with rock and cobble substrate for spawning and rearing. Steelhead are known to occur in Arroyo Grande Creek (CNDDB #17), located adjacent to the Study Area, and Arroyo Grande Creek is federally designated critical habitat for steelhead. The proposed project will not have any impacts on Arroyo Grande Creek. Steelhead do not occur within the Study Area and will not be impacted by the Project.

B. Western Snowy Plover (*Charadrius alexandrinus nivosus*) is a federally threatened species that nests on marine and estuarine sandy shores, and on the banks of alkaline lakes and ponds and salt evaporation ponds. It is found along the entire coast of California and inland at the Salton Sea, Mono Lake and isolated sites along alkali lakes away from the coast. Nesting by the Western Snowy Plover occurs from early March through late September with fledging occurring about 1 month after hatching occurs. Suitable habitat for Snowy Plover nesting is in sandy, gravelly and friable soils, with some cover from vegetation or debris, such as logs, and far from anthropogenic disturbances (CDFW 2018a). Snowy plovers are known to nest on the beaches at Oceano Dunes SVRA to the west of the Study Area (CNDDB #151), which is federally designated critical habitat for snowy plovers. The proposed project will not have any impact on

the dunes or snowy plover nesting habitat. Snowy plovers do not occur within the Study Area and will not be impacted by the project.

C. Tidewater Goby (*Eucyclogobius newberryi*) is a federally listed endangered species and is a California Species of Special Concern. It requires slow moving (but not still) waters with high oxygen levels in estuaries, lagoons, and the lower reaches of streams before they enter the sea. The tidewater goby is found in isolated populations along the California coast from the Smith River near the Oregon border to Agua Hedionda Lagoon in San Diego County (CDFW 2018a). The breeding season for the tidewater goby starts in April and can continue on into December depending on local temperatures and rainfall amount. Sandy bottom habitats are needed for the male to burrow into the sand and spawn. Tidewater gobies are known to occur in Arroyo Grande Creek lagoon (CNDDB #117), located adjacent to the Study Area. The proposed project will not have any impacts on Arroyo Grande Creek. Tidewater gobies do not occur within the Study Area and will not be impacted by the Project.

3.9 Botanical Survey Results

Botanical surveys conducted in May 2018 and January 2019 identified 68 species, subspecies, and varieties of vascular plant taxa in the Study Area (Table 5). The list includes 29 species native to California and 39 introduced (naturalized or planted) species. Native plant species account for approximately 43 percent of the Study Area flora; introduced species account for approximately 57 percent. One special status plant species was identified, Monterey cypress (*Hesperocyparis macrocarpa*), however, this species was planted within the Study Area and outside its naturally occurring range. No other special status plant species were identified in the Study Area.

TABLE 5. VASCULAR PLANT LIST

Common Name	Scientific Name	Special Status	Origin
Ferns - 1 Species			
Giant horsetail	*Equisetum telmateia*	None	Native
Trees - 4 Species			
Arroyo willow	*Salix lasiolepis*	None	Native
Golden wattle	*Acacia longifolia*	None	Introduced
Monterey cypress	*Hesperocyparis macrocarpa*	1B.2	Native
Ngaio tree	*Myoporum laetum*	None	Introduced
Shrubs - 2 Species			
California blackberry	*Rubus ursinus*	None	Native
Coyote brush	*Baccharis pilularis*	None	Native
Forbs - 48 Species			
Alkali heath	*Frankenia salina*	None	Native
Annual yellow sweetclover	*Melilotus indicus*	None	Introduced
Black mustard	*Brassica nigra*	None	Introduced
Blue toadflax	*Nuttallanthus texanus*	None	Native
Brown headed rush	*Juncus phaeocephalus*	None	Native
Bullthistle	*Cirsium vulgare*	None	Introduced
California burclover	*Medicago polymorpha*	None	Introduced
California mugwort	*Artemisia douglasiana*	None	Native
Canary ivy	*Hedera canariensis*	None	Introduced
Celery	*Apium graveolens*	None	Introduced
Cheeseweed	*Malva parviflora*	None	Introduced
Common catchfly	*Silene gallica*	None	Introduced
Common threesquare	*Schoenoplectus pungens*	None	Native
Creek clematis	*Clematis ligusticifolia*	None	Native
Curly dock	*Rumex crispus*	None	Introduced

Common Name	Scientific Name	Special Status	Origin
Cut leaf plantain	*Plantago coronopus*	None	Introduced
False ice plant	*Conicosia pugioniformis*	None	Introduced
Fat-hen	*Atriplex prostrata*	None	Introduced
Fennel	*Foeniculum vulgare*	None	Introduced
Hairy vetch	*Vicia villosa*	None	Introduced
Iceplant	*Carpobrotus edulis*	None	Introduced
Italian thistle	*Carduus pycnocephalus*	None	Introduced
Jersey cudweed	*Pseudognaphalium luteoalbum*	None	Introduced
Jointed charlock	*Raphanus sativus*	None	Introduced
Lupine	*Lupinus bicolor*	None	Native
Marsh jaumea	*Jaumea carnosa*	None	Native
Mexican rush	*Juncus mexicanus*	None	Native
Mustard	*Hirschfeldia incana*	None	Introduced
Neckweed	*Veronica peregrina*	None	Native
Pacific aster	*Symphyotrichum chilense*	None	Native
Pickleweed	*Salicornia pacifica*	None	Native
Poison hemlock	*Conium maculatum*	None	Introduced
Ragweed	*Ambrosia psilostachya*	None	Native
Ribwort	*Plantago lanceolata*	None	Introduced
Salsify	*Tragopogon porrifolius*	None	Introduced
Salt Marsh baccharis	*Baccharis glutinosa*	None	Native
Scarlet pimpernel	*Lysimachia arvensis*	None	Introduced
Seaside heliotrope	*Heliotropium curassavicum var. oculatum*	None	Native
Sheep sorrel	*Rumex acetosella*	None	Introduced
Silver weed cinquefoil	*Potentilla anserina*	None	Native
Sow thistle	*Sonchus oleraceus*	None	Introduced
Spencer primrose	*Camissoniopsis micrantha*	None	Native
Spiny sowthistle	*Sonchus asper*	None	Introduced
Stinging nettle	*Urtica dioica*	None	Native
Strigose lotus	*Acmispon strigosus*	None	Native
Telegraph weed	*Heterotheca grandiflora*	None	Native
Western goldenrod	*Euthamia occidentalis*	None	Native
Wild geranium	*Geranium dissectum*	None	Introduced
Grasses - 13 Species			

Common Name	Scientific Name	Special Status	Origin
Annual beard grass	*Polypogon monspeliensis*	None	Introduced
Beardless wild rye	*Elymus triticoides*	None	Native
Foxtail barley	*Hordeum murinum*	None	Introduced
Giant wild rye	*Elymus condensatus*	None	Native
Italian rye grass	*Festuca perennis*	None	Introduced
Perennial veldt grass	*Ehrharta calycina*	None	Introduced
Rattail sixweeks grass	*Festuca myuros*	None	Introduced
Rescue grass	*Bromus catharticus*	None	Introduced
Ripgut brome	*Bromus diandrus*	None	Introduced
Salt grass	*Distichlis spicata*	None	Native
Slim oat	*Avena barbata*	None	Introduced
Soft chess	*Bromus hordeaceus*	None	Introduced
Wildoats	*Avena fatua*	None	Introduced

3.10 Wildlife Survey Results

Wildlife species detected in the Study Area include two reptiles, 28 birds, and three mammals. (Table 6). A gopher snake was observed in the grass at the southeast end of the runway, and gopher mounds and ground squirrel burrows were observed throughout the grassland areas. A variety of birds were observed in the riparian habitat on the eastern and southeastern edges of the Study Area and in the non-native ornamental trees in the northwest corner of the Study Area. Small mammal trapping studies were beyond the scope of this report, although several common species are likely to occur.

TABLE 6. WILDLIFE LIST

Common Name	Scientific Name	Special Status	Habitat Type
Reptiles – 2 Species			
Pacific Gopher Snake	*Pituophis catenifer catenifer*	None	Woodland, grassland, rural
Coast Range Fence Lizard	*Sceloporus occidentalis bocourtii*	None	Wide range; variety of habitats
Birds – 28 Species			
Red-winged Blackbird	*Agelaius phoeniceus*	None	Marshes, fields
Mallard	*Anas platyrhynchos*	None	Lakes, ponds, streams
California Quail	*Callipepla californica*	None	Shrubby habitats
Swainson's Thrush	*Catharus ustulatus*	None	Mixed woodlands
Rock Pigeon	*Columba livia*	None	Urban areas

Common Name	Scientific Name	Special Status	Habitat Type
American Crow	*Corvus brachyrhynchos*	None	Many habitats, esp. urban
Brewer's Blackbird	*Euphagus cyanocephalus*	None	Open habitats
Common Yellowthroat	*Geothlypis trichas*	None	Marshes, streamsides
House Finch	*Haemorhous mexicanus*	None	Riparian, grasslands, chaparral, woodlands, urban
Barn Swallow	*Hirundo rustica*	None	Riparian, grasslands, lakes
Dark-eyed Junco	*Junco hyemalis*	None	Oak woodland
California Gull	*Larus californicus*	Special Animal (nesting colonies)	Beach, urban areas
Western Gull	*Larus occidentalis*	None	Beach, urban areas
Song Sparrow	*Melospiza melodia*	None	Oak, riparian woodland
Brown-headed Cowbird	*Molothrus ater*	None	Grasslands, ranches
Cliff Swallow	*Petrochelidon pyrrhonota*	None	Urban; open areas near water
Black-headed Grosbeak	*Pheucticus melanocephalus*	None	Woodlands
Spotted Towhee	*Pipilo maculatus*	None	Dense brushy areas
Chestnut-backed Chickadee	*Poecile rufescens*	None	Mixed woodlands
Great-tailed Grackle	*Quiscalus mexicanus*	None	Rural and developed areas, agricultural, urban areas
Black Phoebe	*Sayornis nigricans*	None	Near water in natural and urban settings
Allen's hummingbird	*Selasphorus sasin*	None	Riparian, chaparral and woodland
Yellow Warbler	*Setophaga petechia*	SSC (nesting)	Riparian woodlands
Lesser Goldfinch	*Spinus psaltria*	None	Riparian, oak woodlands
American Goldfinch	*Spinus tristis*	None	Weedy fields, woodlands
European Starling	*Sturnus vulgaris*	None	Agricultural, livestock areas
Tree Swallow	*Tachycineta bicolor*	None	Oak, riparian woodlands, open areas near water
Cassin's Kingbird	*Tyrannus vociferans*	None	Open and semi-open areas
Red-winged Blackbird	*Agelaius phoeniceus*	None	Marshes, fields
Mammals – 3 Species			
Brush Rabbit	*Sylvilagus bachmani*	None	Brushy habitats
California Ground Squirrel	*Spermophilus beecheyi*	None	Grasslands
Valley Pocket Gopher	*Thomomys bottae*	None	Variety of habitats

4 ENVIRONMENTAL IMPACT ANALYSIS AND MITIGATION

The proposed Project could affect various biological resources, including coastal brackish marsh, riparian forest, nesting birds, and special status wildlife. Biological recommendations (BR) for avoidance, minimization, and mitigation are recommended to reduce potential impacts to sensitive biological resources to a less than significant level. Table 7 summarizes the potential or present biological resources within the Study Area, the proposed Project's level of effect on biological resources, and the mitigation measure recommended to reduce or offset negative effects from the Project.

TABLE 7. IMPACTS AND MITIGATIONS SUMMARY

Biological Resource	Potential Impact From Project	Recommended Mitigation Measures
Coastal Brackish Marsh	Loss of wetland habitat	BR-1 and BR-2
Arroyo Willow Riparian Forest	Loss or degradation of riparian habitat	BR-1 and BR-2
Nesting Birds	Loss or degradation of potential breeding and/or wintering habitat	BR-3 through BR-5
Special Status Plants	No Impact	N/A
Special Status Animals	Loss or degradation of foraging, breeding, and/or wintering habitat	BR-6 through BR-9

There are three federally listed species, La Graciosa thistle, Gambel's water cress, and California red-legged frog, that have potential to occur within the Study Area. A summary of effects determination is provided in Table 8 below for these federal species to assist federal agencies such as the FAA and USFWS in their review. La Graciosa thistle and Gambel's watercress were not detected during botanically timed surveys, and do not occur within the Study Area. Therefore, the proposed Project will have no effect on these species (see Section 4.4.1). California red-legged frog has low potential to occur, but mitigation measures provided below (Section 4.4.5) will avoid and minimize effects. The Project is therefore not likely to adversely affect California red-legged frog (Table 8).

TABLE 8. SUMMARY OF EFFECTS DETERMINATION

Species	Listing Status	Effects Determination
La Graciosa thistle	ESA Endangered	No Effect
Gambel's water cress	ESA Endangered	No Effect
California red-legged frog	ESA Threatened	Not Likely to Adversely Affect

4.1 Habitats

The proposed Project would result in up to approximately 0.75 acres of permanent impacts. Temporary impacts include a 50-foot buffer around runway and taxiway expansion areas, as well as any areas of trenching or digging to install electrical or communication lines. This would result

total temporary impacts of up to approximately 9.18 acres. Habitat impacts are approximate, and it is recommended sensitive habitats including wetlands and riparian be demarcated by a licensed surveyor in order to more precisely calculate impacts. Potential habitat impacts are listed below in Table 9 and shown in Figure 7. Potential impacts to individual wetlands are shown in Figure 8. Impacts to anthropogenic habitats are listed in Table 9, but not discussed further.

TABLE 9. POTENTIAL HABITAT IMPACTS

Habitat Type	Temporary Impact Acres	Permanent Impact Acres	Total Impact Acres
Annual Grassland	8.09	0.21	8.30
Coastal Brackish Marsh	0.89	0.02	0.91
Arroyo Willow Riparian Forest	0.03	--	0.03
Ruderal	0.17	0.43	0.53
Anthropogenic	--	0.10	0.10
Total	**9.18**	**0.75**	**9.93**

4.1.1 Annual Grassland

Up to approximately 8.30 acres of annual grassland would be impacted by the proposed Project. This habitat is dominated by non-native grass species and forbs, but may provide habitat for native birds and other wildlife. This is not a sensitive habitat type and does not require mitigation.

4.1.2 Coastal Brackish Marsh

Up to approximately 0.91 acres of coastal brackish marsh would be impacted by the proposed Project. These include up to 0.02 acres of permanent impacts due to the relocated segmented circle and wind cone and up to approximately 0.89 acres of temporary impacts. However, due to the relatively narrow areas of permanent impact (2.5 to 5 feet wide on either side of taxiways and runways), precise impact acreages to wetland and riparian (see below) cannot be calculated until habitat boundaries are mapped by a licensed surveyor. Jurisdictional impacts require Agency coordination and permits. The following Biological Resource (BR) mitigation measures are recommended to reduce potential adverse effects of the proposed Project on coastal brackish marsh:

BR-1. To mitigate impacts to wetland and riparian habitat, the County shall prepare a wetland mitigation plan. In accordance with FAA A/C 150/5200 – 33B *Hazardous Wildlife Attractants on or Near Airports,* any mitigation plan needs to avoid creating or enhancing habitat that could attract wildlife hazardous to air operations in the vicinity of airport. Temporary impacts typically require a minimum 1 to 1 ratio restoration (area of restored habitat to impacted habitat), and permanent impacts typically require a minimum 3 to 1 ratio creation and/or enhancement (area of created or enhanced habitat to impacted habitat). Appropriate restoration activities include planting local native species, correcting bank stabilization issues, and providing habitat enhancements. The mitigation plan shall be prepared and approved by the County and other jurisdictional agencies, as appropriate (i.e., California Department of Fish and Wildlife, U.S. Army Corps of Engineers, and the Regional Water Quality Control Board and California Coastal Commission).

BR-2. In the event that no suitable land is available on site, the Applicant shall identify and purchase or place in a conservation easement a parcel of wetland, of equal or better quantity and quality, within County lands (e.g., wetland habitat in the Arroyo Grande Creek Watershed) that is considered to be threatened by the conversion to non-wetland use. The area protected by this easement shall be at least three (3) times the aerial extent of impacted habitat described as disturbed brackish coastal marsh habitat. This parcel or portion thereof shall be placed in an open space easement acceptable to jurisdictional agencies. A habitat management plan will be prepared to describe maintenance activities required to protect wetland functions and values. This easement may also require an endowment for maintenance and protection of the wetland in perpetuity. Alternatively, if a wetland mitigation bank acceptable to jurisdictional agencies is available, credits may be purchased for a total area at least three times the aerial extent of impacted habitat described as disturbed brackish coastal marsh habitat on the Oceano Airport property.

4.1.3 Arroyo Willow Riparian Woodland

Up to approximately 0.03 acres of riparian habitat would be temporarily impacted by the project. Riparian habitat may be temporarily impacted by trenching for installation of electrical or communications cables in the southern portion of the Study Area. Temporary impacts to riparian woodland would be mitigated by implementing the wetland mitigation plan outlined in BR-1.

4.1.4 Ruderal

Up to approximately 0.53 acres of ruderal habitat would be impacted by the proposed Project. This habitat is dominated by non-native vegetation, but may provide foraging habitat for native birds and other wildlife. This is not a sensitive habitat type and does not require mitigation.

4.1.5 Iceplant Mats

Iceplant mats would not be impacted by the proposed Project.

4.1.6 Non-native Ornamental Trees

Non-native ornamental trees would not be impacted by the proposed Project.

4.2 Potential Wetlands and Jurisdictional Waters

Jurisdictional wetlands occur in the Study Area and may be impacted by the project. See Section 4.1.2 above. Impacts to jurisdictional wetlands can be mitigated by implementing BR-1 and BR-2, above.

4.3 Nesting Birds

Vegetation removal and construction activities associated with the project could result in adverse impacts to nesting birds if conducted during the nesting season (March 15 through August 15). Migratory non-game native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (50 C.F.R. Section 10.13). Sections 3503, 3503.5 and 3513 of the California Fish and Game Code prohibit take (as defined therein) of all native

birds and their active nests, including raptors and other migratory non-game birds (as listed under the Federal MBTA). Potential impacts to nesting birds can be avoided by implementing the following:

BR-3. Within one week of ground disturbance activities, if work occurs between March 15 and August 15, nesting bird surveys shall be conducted**.** If surveys do not locate nesting birds, construction activities may be conducted. If nesting birds are located, no construction activities shall occur within 100 feet of nests until chicks are fledged. A pre-construction survey report shall be submitted to the lead agency immediately upon completion of the survey. The report shall detail appropriate fencing or flagging of the buffer zone and make recommendations on additional monitoring requirements. A map of the Project site and nest locations shall be included with the report. The Project biologist conducting the nesting survey shall have the authority to reduce or increase the recommended buffer depending upon site conditions.

4.4 Special Status Species

4.4.1 Plants

Special status plants were not detected in the Study Area during appropriately-timed spring botanical surveys in 2018. Special status plants are not expected to occur within the Study Area. The proposed project would not affect special status plants, and no mitigation measures are required.

4.4.2 Invertebrates

There is potential foraging habitat for two sensitive bumblebee species in the grassland and ruderal habitats in the Study Area. The proposed project will reduce available foraging habitat for bumblebees, but impacts will not significantly adversely affect either species. The proposed project would not impact sensitive bumblebee species, and no mitigation measures are required.

4.4.3 Birds

There is potential wintering habitat for burrowing owl in grassland areas within the Study Area, and there is foraging habitat for yellow warbler and white-tailed kite. Potential habitat impacts resulting from the Project would not result in significant loss of foraging or wintering habitat for special status birds. Potential nesting habitat is present for California black rail, though the habitat within the Study Area is sub-optimal. Potential impacts to special status nesting birds can be avoided by implementing BR-3 above one week prior to ground disturbance or tree pruning activities (refer to Section 5.3). If nests of special status birds are identified in the work area, the following additional mitigation measures shall be implemented:

BR-4. Occupied nests of special status bird species shall be mapped using GPS or survey equipment. Work shall not be allowed within a 100-foot buffer (for non-raptors) or 300-foot buffer (for raptors) while the nest is in use. The buffer zone shall be delineated on the ground with orange construction fencing where it overlaps work areas. The Project biologist conducting the nesting survey shall have the authority to reduce or increase the recommended buffer depending upon site conditions.

BR-5. Occupied nests of special status bird species that are within 100 feet (for non-raptors) or 300 feet (for raptors) of Project work areas shall be monitored at least every two weeks through the nesting season to document nest success and check for Project compliance with buffer zones. Once nests are deemed inactive and/or chicks have fledged and are no longer dependent on the nest, work may commence in these areas.

4.4.4 Mammals

There is low potential for American badger to occur in grassland habitat within the Study Area, though no badgers were detected during 2018 surveys. The grassland habitat within the Study Area is of low quality for this species due to the lack of prey, perimeter fence, and the density of the surrounding residential development, but potential impacts to badgers can be avoided by implementing the following mitigation measure:

BR-6. A pre-construction survey shall be conducted within thirty days of beginning work on the site to identify if badgers are using the site. The results of the survey shall be sent to the project manager and the lead agency. If the pre-construction survey finds potential badger dens, they shall be inspected to determine whether they are occupied. The survey shall cover the entire property, and shall examine both old and new dens. 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. If badgers are found in dens on the property between February and July, nursing young may be present. 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. Between July 1st and February 1st all potential badger dens shall be inspected to determine if badgers are present. During the winter badgers do not truly hibernate, but are inactive and asleep in their dens for several days at a time. Because they can be torpid during the winter, they are vulnerable to disturbances that may collapse their dens before they rouse and emerge. Therefore, surveys shall be conducted for badger dens throughout the year. If badger dens are found on the property during the pre-construction survey, the CDFW wildlife biologist for the area shall be contacted to review current allowable management practices.

4.4.5 California red-legged frog

There is low potential for juvenile CRLF to disperse from nearby Arroyo Grande Creek into upland habitat within the Study Area. CRLF would have to cross two paved roads in order to enter the Study Area, and therefore are not likely to be present, but potential impacts to CRLF can be avoided by implementing the following:

BR-7. Qualified biologists will brief all project personnel prior to participating in construction activities. At a minimum, the briefing will include a description of the project components and techniques, a description of the listed species occurring in the project area, and the general and specific measures and restrictions to protect the species during implementation of the project.

BR-8. Prior to start of construction activities, install exclusionary silt fencing to adequately exclude CRLF from the project area during active construction. These fences may be opened during periods of no-construction (e.g. on weekends) to prevent entrapment of CRLF.

BR-9. USFWS-approved biological monitor(s) shall be present on site during all construction activities occurring in potential CRLF habitat (grassland, marsh, and riparian habitat). Prior to the start of construction activities in potential CRLF habitat each day, biologist(s) will survey the work sites for CRLF, look under parked vehicles and heavy equipment frequently (especially every morning before work starts). California red-legged frogs captured during surveys or construction activities will be relocated to the nearest suitable habitat outside of the project area.

4.5 Habitat Connectivity and Wildlife Movement

The proposed Project would not impact habitat connectivity or wildlife movement. The airport is limited in its usefulness as a wildlife corridor because of the perimeter fence. Widening of runways and taxiways and the relocation of the wind cone would not significantly alter wildlife movement patterns through the Study Area.

5 PHOTOGRAPHS

Photo 1. Mowed vegetation in annual grassland north of the runway, looking north, January 2, 2019.

Photo 2. Beardless wild rye growing within coastal brackish marsh habitat, looking northwest, May 23, 2018.

Photo 3. Coastal brackish marsh habitat, looking southeast, May 9,2018.

Photo 4. Riparian habitat abutting annual grassland with coastal brackish marsh interpsered, looking west, June 7,2018.

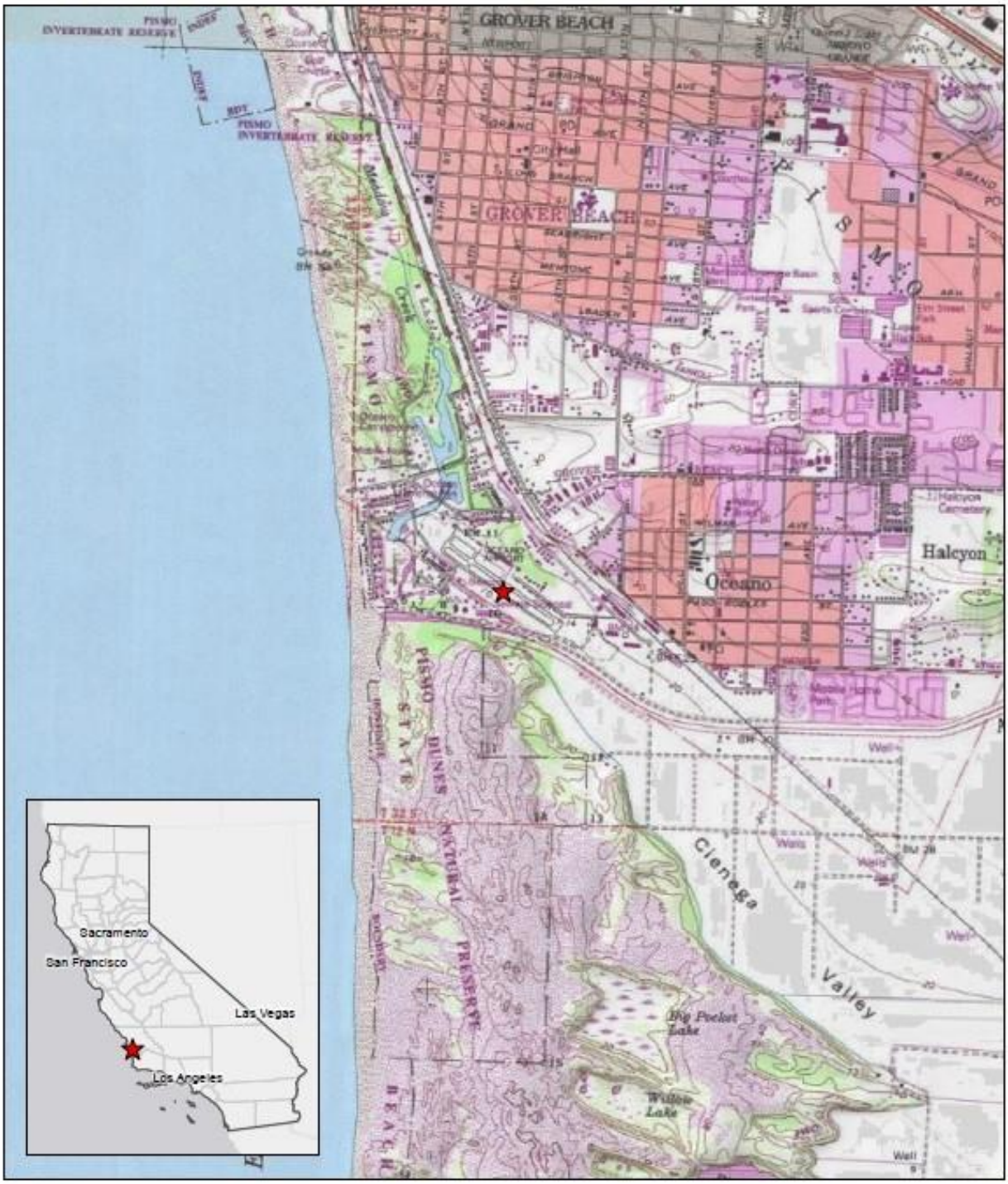
Photo 5. Ribwort growing in sparsely vegetated ruderal habitat, looking east, May 23, 2018.

Photo 6. Ruderal habitat growing next to the tarmac, looking northwest, June 7, 2018.

6 FIGURES

- **Figure 1. USGS Topographic Map**
- **Figure 2. Aerial Photograph**
- **Figure 3. Biological Resource Map**
- **Figure 4. CNDDB Plant Records**
- **Figure 5. CNDDB Animal Records**
- **Figure 6. USFWS Critical Habitat Map**
- **Figure 7. Proposed Impacts**
- **Figure 8. Wetland Impacts**

Figure 1. United States Geological Survey Topographic Map



Legend

★ Study Area Location

N

0 0.25 0.5 0.75 1 Mile

Oceano Airport
Map Center: 120.62229°W 35.10117°N
Oceano, San Luis Obispo County

USGS Quadrangle: Oceano

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
January 15, 2019 08:52 AM by JBB

Figure 2. Aerial Photograph

Legend

Study Area

0 200 400 600 800 Feet

N

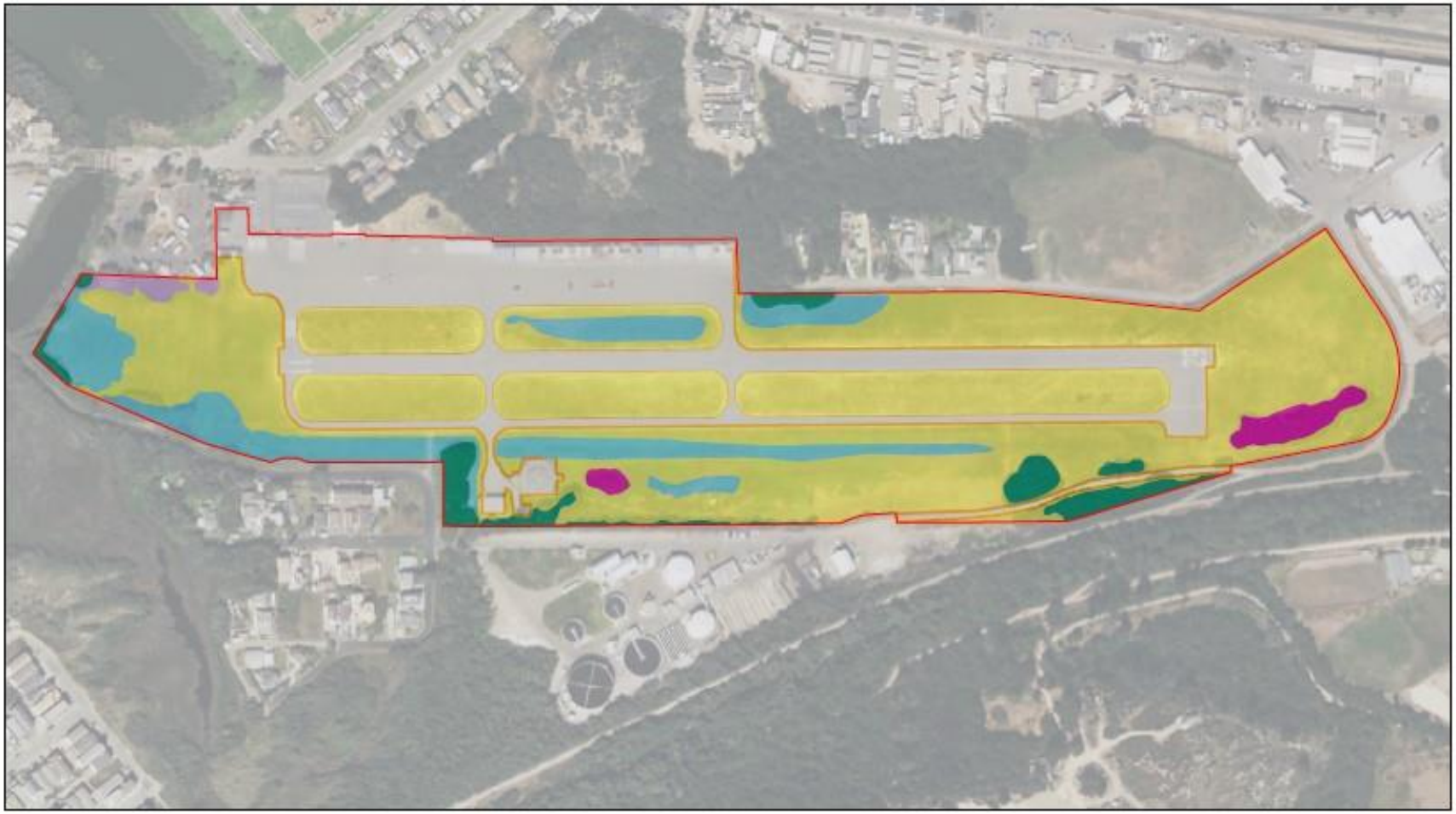
Oceano Airport
Map Center: 120.62229°W 35.1015°N
Oceano, San Luis Obispo County

Imagery Date: 2/24/2017

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
January 15, 2019 08:53 AM by JBB

Figure 3. Biological Resources



Legend

- Study Area (41.9 acres)
- Annual Grassland (23.4 acres)
- Anthropogenic (10.5 acres)
- Arroyo Willow Riparian Forest (1.6 acres)
- Coastal Brackish Marsh (4.7 acres)
- Ice Plant Mats (0.7 acre)
- Ornamental Non-native Trees (0.3 acre)
- Ruderal (1.0 acre)

N

0 200 400 600 Feet

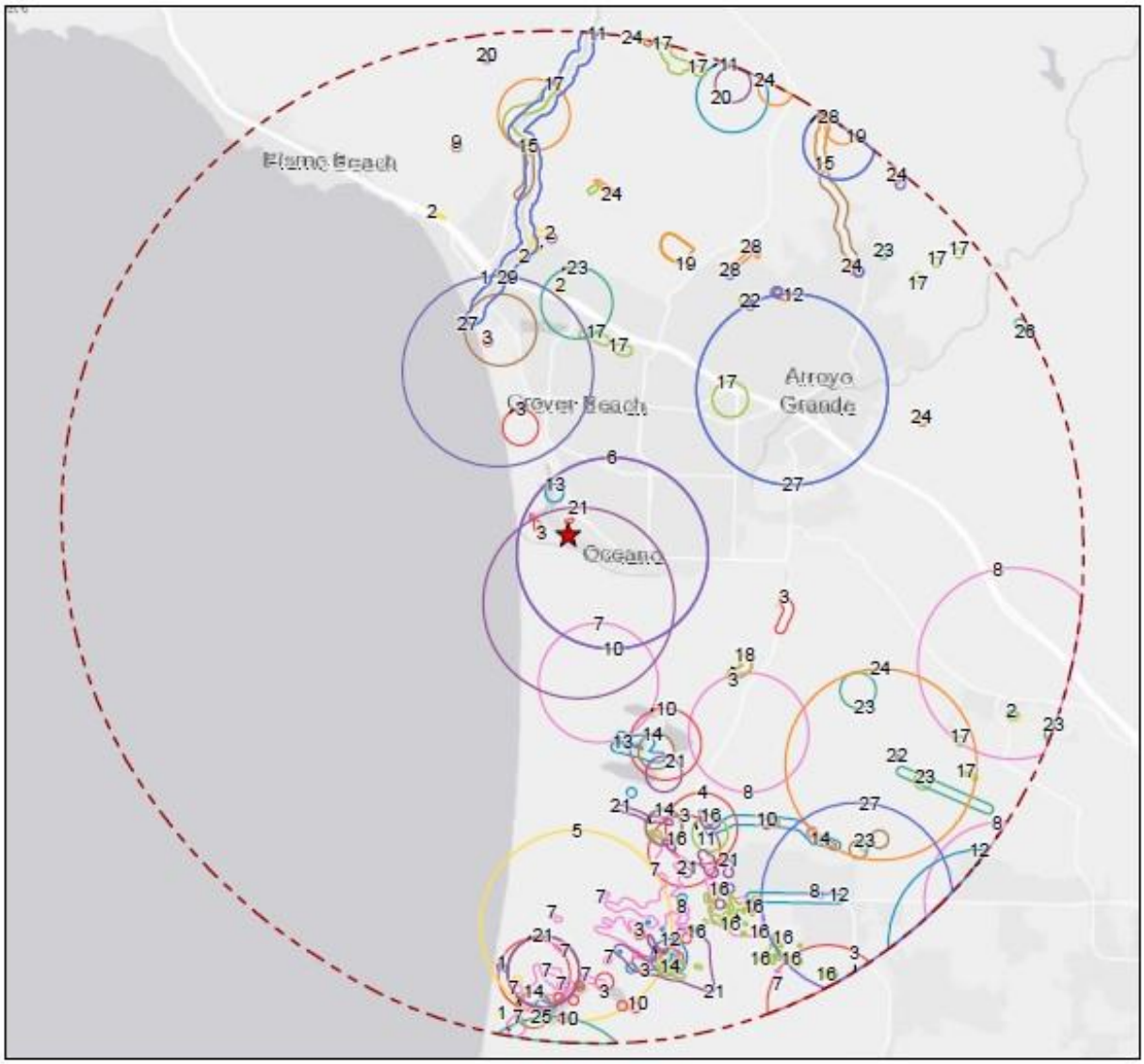
Oceano Airport
Map Center: 120.62267°W 35.10133°N
Oceano, San Luis Obispo County

Biological Survey Date: 01/02/2019
Imagery Source: USDA NAIP, 07/14/2018

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
May 22, 2020 12:06 PM by SAF

Figure 4. California Natural Diversity Database Plant Records



Label	Common Name	Label	Common Name
1	Beach spectaclepod	21	San Luis Obispo monardella
2	Black-flowered figwort	22	San Luis Obispo owl's-clover
3	Blochman's leafy daisy	23	Sand mesa manzanita
4	California saw-grass	24	Santa Margarita manzanita
5	Coast woolly-heads	25	Short-lobed broomrape
6	Coastal goosefoot	26	Slender bush-mallow
7	Crisp monardella	27	Southern curly-leaved monardella
8	Dune larkspur	28	Straight-awned spineflower
9	Dwarf soaproot	29	Surf thistle
10	Gambel's water cress		
11	Hoover's bent grass		
12	Kellogg's horkelia		
13	La Graciosa thistle		
14	Marsh sandwort		
15	Mesa horkelia		
16	Nipomo Mesa lupine		
17	Pismo clarkia		
18	San Bernardino aster		
19	San Luis mariposa-lily		
20	San Luis Obispo County lupine		

Legend

Study Area Location

5-Mile Radius

N

0 0.5 1 2 Miles

Oceano Airport
Map Center: 120.62156°W 35.10151°N
Oceano, San Luis Obispo County

CNDDB GIS Data Last Updated: January 2019

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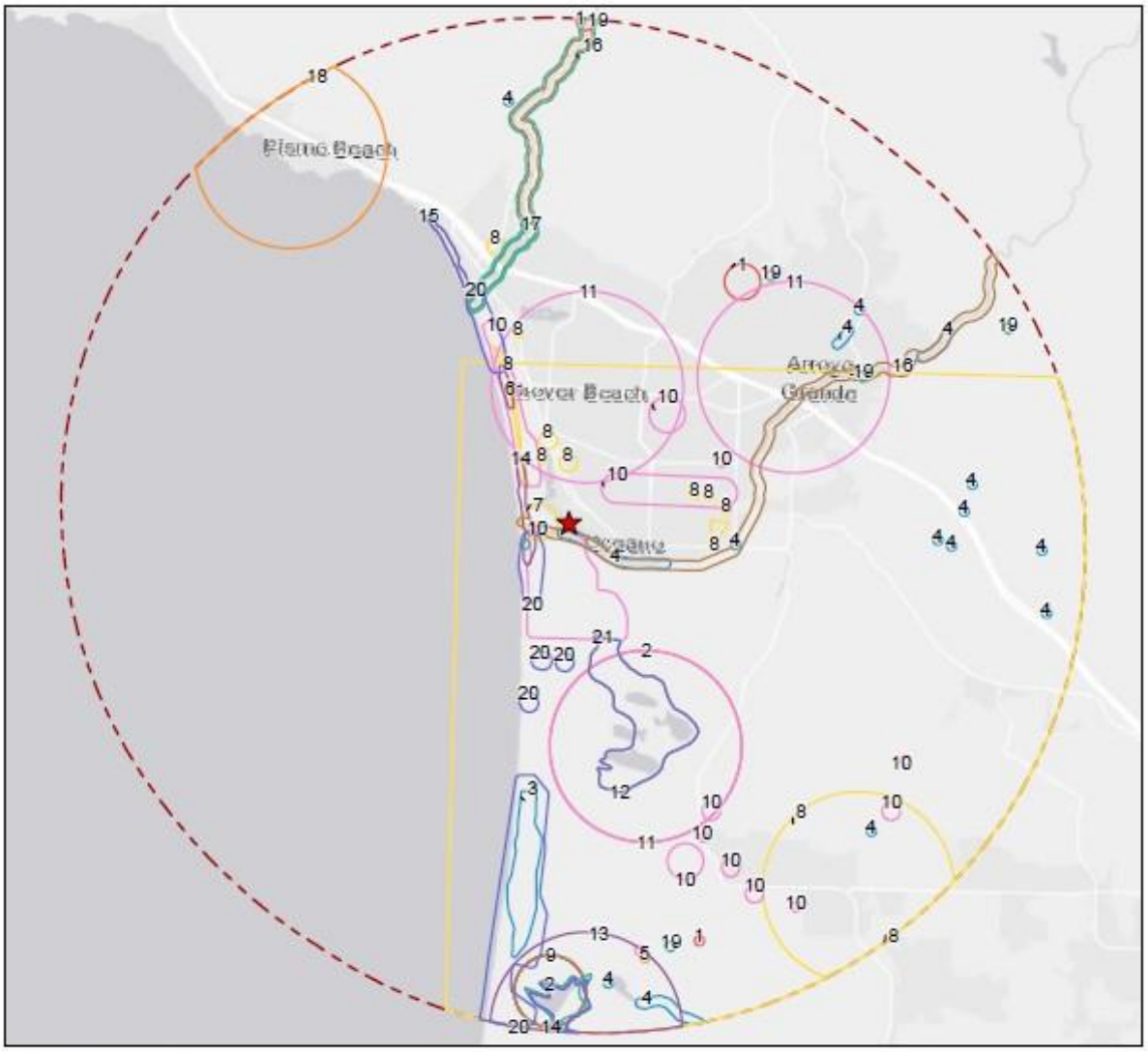
Map Updated:
January 15, 2019 02:13 PM by JBB

Figure 5. California Natural Diversity Database Animal Records



Label	Common Name
1	American badger
2	California black rail
3	California least tern
4	California red-legged frog
5	Coast horned lizard
6	Globose dune beetle
7	Mimic tryonia (=California brackishwater snail)
8	Monarch - California overwintering population
9	Morro Bay blue butterfly
10	Northern California legless lizard
11	Obscure bumble bee
12	Oso Flaco flightless moth
13	Oso Flaco patch butterfly
14	Oso Flaco robber fly
15	Sandy beach tiger beetle
16	Steelhead - south-central California coast DPS
17	Tidewater goby
18	Townsend's big-eared bat
19	Western pond turtle
20	Western snowy plover
21	White sand bear scarab beetle

Legend

Study Area Location

5-Mile Radius

N

0 0.5 1 2 Miles

Oceano Airport
Map Center: 120.62154°W 35.1008°N
Oceano, San Luis Obispo County

CNDDB GIS Data Last Updated: January 2019

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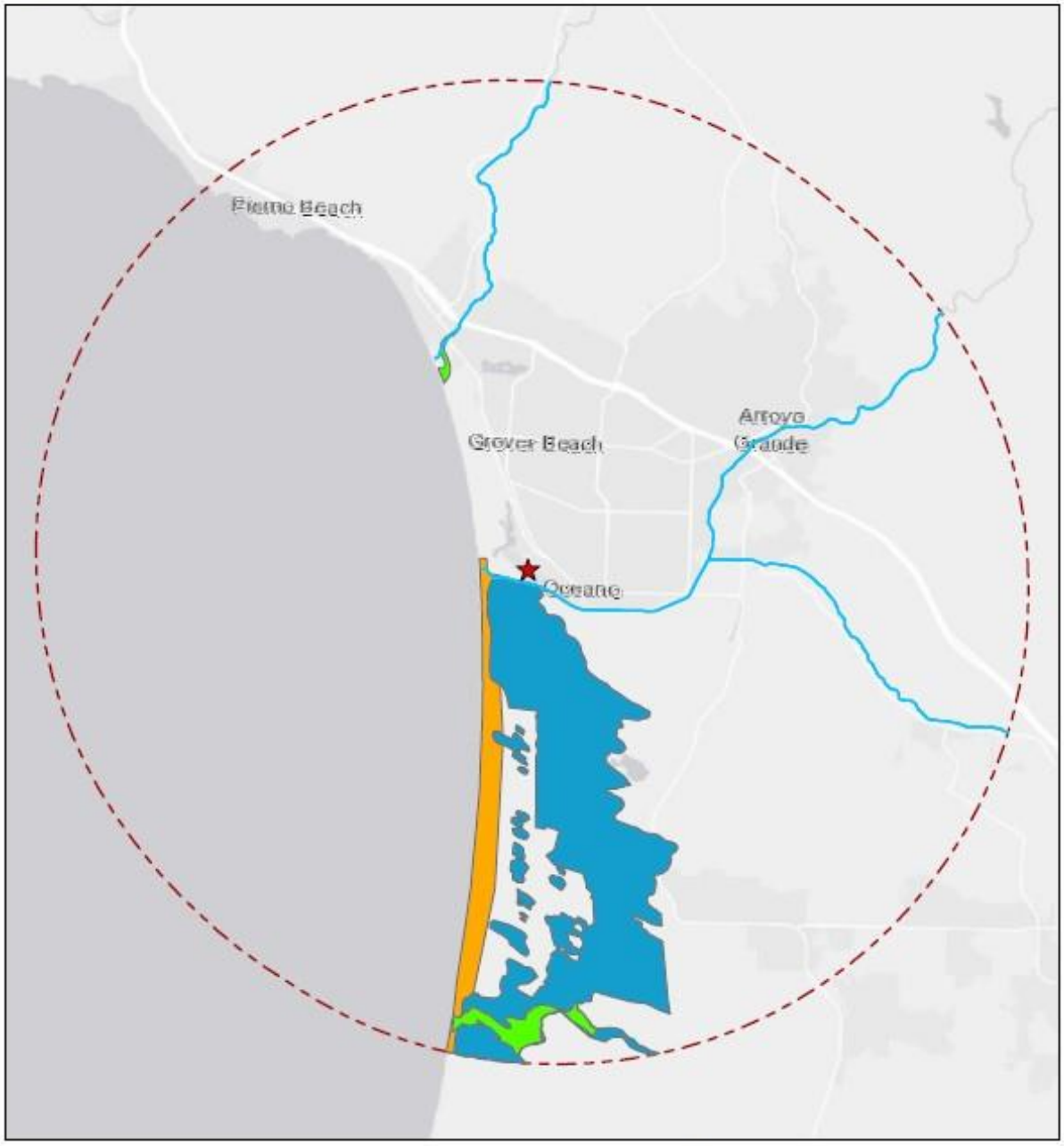
Map Updated:
January 15, 2019 02:12 PM by JBB

Figure 6. United States Fish and Wildlife Service Critical Habitat



Legend

Critical Habitat

Steelhead

La Graciosa thistle

Tidewater goby

Western snowy plover

Study Area Location

5-Mile Radius

N

0 0.5 1 2 Miles

Oceano Airport
Map Center: 120.62154°W 35.1008°N
Oceano, San Luis Obispo County

USFWS Critical Habitat Data Last Updated: January 2019

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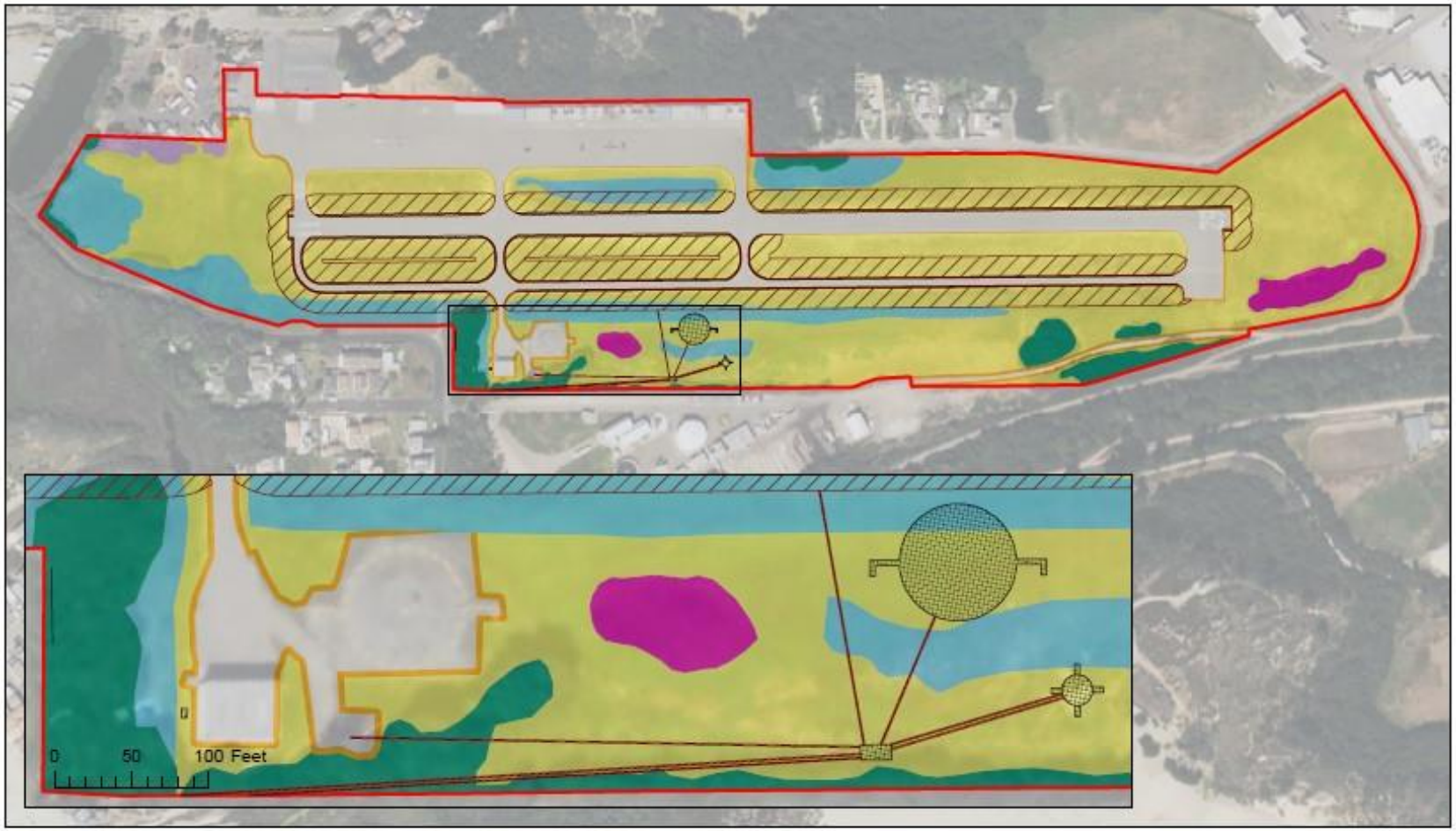
Map Updated:
January 15, 2019 02:13 PM by JBB

Figure 7. Proposed Impacts



Legend

- Study Area
- Annual Grassland
- Anthropogenic
- Arroyo Willow Riparian Forest
- Coastal Brackish Marsh
- Ice Plant Mats
- Ornamental Non-native Trees
- Ruderal
- Permanent Impacts (0.75 acre, 49 LF)
- Temporary Impacts (9.19 acres)

N

0 250 500 Feet

Oceano Airport
Map Center: 120.62342°W 35.10055°N
Oceano, San Luis Obispo County

Imagery Source: USDA NAIP, 07/14/2018

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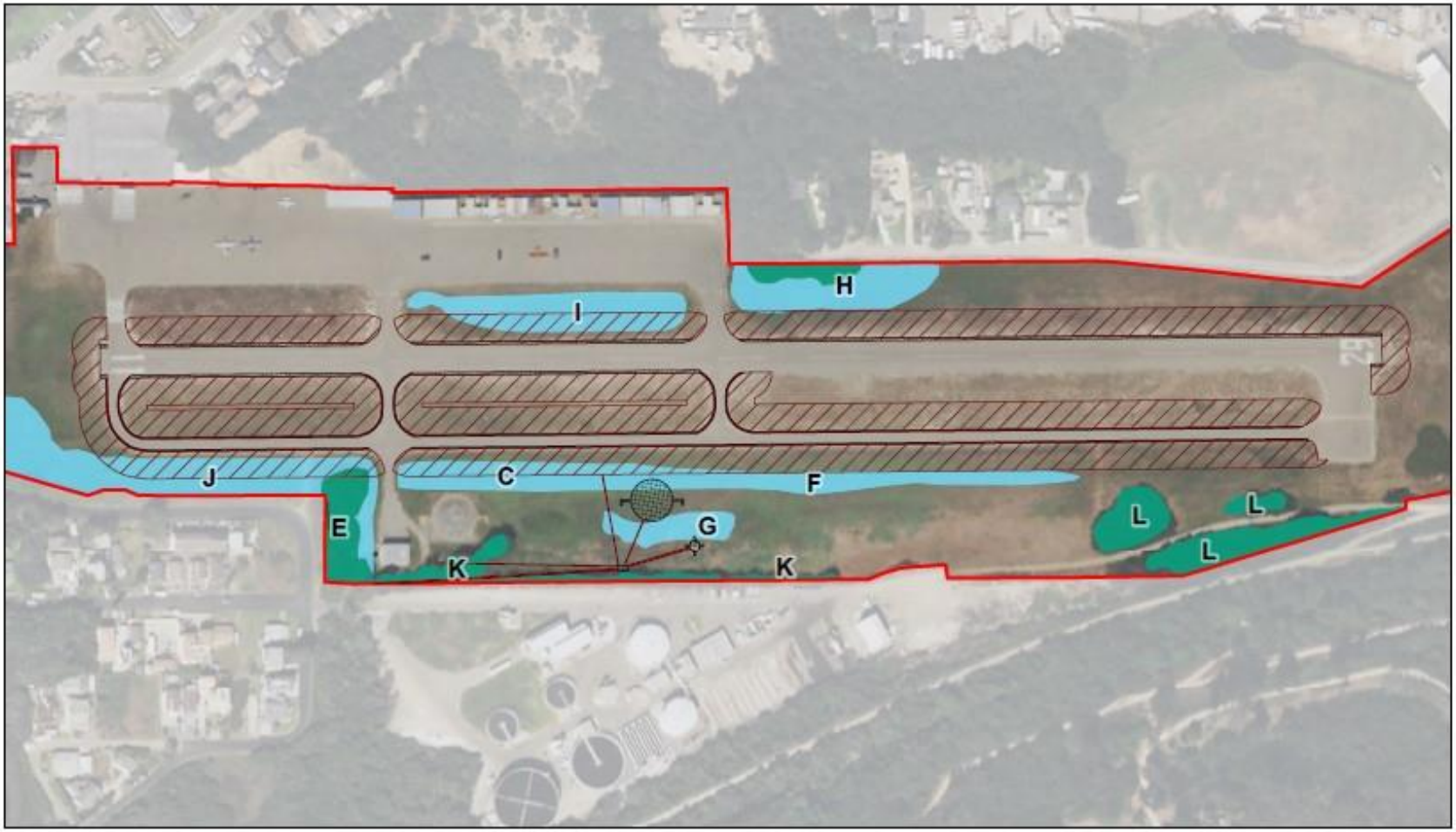
Map Updated:
May 18, 2020 09:40 AM by SAF

Figure 8. Wetland Impacts



Legend

- Study Area
- Permanent Impacts (0.75 acre, 49 LF)
- Temporary Impacts (9.19 acres)
- Arroyo Willow Riparian Forest (1.56 acres; 0.03 acre temporarily impacted)
- Coastal Brackish Marsh (4.67 acres; 0.02 acre permanently impacted, 0.89 acre temporarily impacted)

N

0 100 200 300 Feet

Oceano Airport
Map Center: 120.62259°W 35.10131°N
Oceano, San Luis Obispo County

Imagery Source: USDA NAIP, 07/14/2018

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
May 21, 2020 10:32 AM by SAF

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8 APPENDICES

- **Appendix A. USDA Custom Soil Resource Report**
- **Appendix B. Special Status Plants Reported from the Region**
- **Appendix C. Special Status Animals Reported from the Region**
- **Appendix D. IPaC Resource List**

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource

Report for

San Luis Obispo County, California, Coastal Part

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


120° 37' 44" W
120° 36' 57" W
35° 6' 18" N
35° 5' 53" N
716200
716300
716400
716500
716600
716700
716800
716900
717000
717100
717200
717300
3887300
3887200
3887100
3887000
3886900
3886800
3886700
3886600
Meadow Creek
Air Park Dr
Palace Ave
1
B Bridge St
Front St
Railroad St
Fountain Ave
Ocean St
Aloha Pl
173
Arroyo Grande Creek
Sand Dollar Ave
Soil Map may not be valid at this scale.
Map Scale: 1:5,440 if printed on A landscape (11" x 8.5") sheet.
Meters
0 50 100 200 300
Feet
0 250 500 1000 1500
N
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Luis Obispo County, California, Coastal Part
Survey Area Data: Version 11, Sep 12, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Sep 30, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND	MAP INFORMATION
	imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
173	Mocho fine sandy loam, 0 to 2 percent slopes, MLRA 14	42.0	100.0%
Totals for Area of Interest		**42.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Luis Obispo County, California, Coastal Part

173—Mocho fine sandy loam, 0 to 2 percent slopes, MLRA 14

Map Unit Setting

National map unit symbol: 2tyyq
Elevation: 10 to 1,660 feet
Mean annual precipitation: 13 to 21 inches
Mean annual air temperature: 56 to 60 degrees F
Frost-free period: 300 to 360 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Mocho and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mocho

Setting

Landform: Alluvial fans, alluvial flats
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile

H1 - 0 to 18 inches: fine sandy loam
H2 - 18 to 45 inches: silty clay loam
H3 - 45 to 60 inches: stratified sand to gravelly sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Haploxerolls
Percent of map unit: 3 percent
Hydric soil rating: No

Metz
Percent of map unit: 3 percent
Hydric soil rating: No

Sorrento
Percent of map unit: 3 percent
Hydric soil rating: No

Camarillo
Percent of map unit: 2 percent
Hydric soil rating: No

Xerofluvents
Percent of map unit: 1 percent
Landform: Drainageways
Hydric soil rating: Yes

Mocho, loam
Percent of map unit: 1 percent
Hydric soil rating: No

Salinas, loam
Percent of map unit: 1 percent
Hydric soil rating: No

Mocho, silty clay loam
Percent of map unit: 1 percent
Hydric soil rating: No

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APPENDIX B. SPECIAL STATUS PLANTS REPORTED FROM THE REGION

	Common Name *Scientific Name*	Fed/State Status Global/State Rank Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur	Detected within Study Area?	Effect of Proposed Activity
1.	**Red Sand-Verbena** *Abronia maritima*	None/None G4/S3? 4.2	February - November	Coastal dunes; <100m sCCo, Sco, ChI; Baja CA	None. Suitable habitat not present within Study Area.	No.	No Effect.
2.	**Hoover's Bent Grass** *Agrostis hooveri*	None/None G2/S2 1B.2	April - July	Sandy soil in oak woodland habitat; <600 m. Endemic to SLO & SB Counties.	None. Suitable habitat not present within Study Area.	No.	No Effect.
3.	**Douglas's Fiddleneck** *Amsinckia douglasiana*	None/None G4/S4 4.2	March - May	Unstable shaly sedimentary slopes; (100) 150–1600 m. SCoR, w WTR	None. Suitable soils and habitat not present within Study Area.	No.	No Effect.
4.	**Aphanisma** *Aphanisma blitoides*	None/None G3G4/S2 1B.2	February - June	Coastal bluff scrub, coastal dunes, coastal scrub, in sand or clay soil; 1-305 m. s CCo, SCo, ChI; Baja CA	None. Suitable habitat not present within Study Area.	No.	No Effect.
5.	**Eastwood's Brittle-Leaf Manzanita** *Arctostaphylos crustacea* ssp. *Eastwoodiana*	None/None G4T2/S2 1B.1	March	Maritime chaparral on the La Purisima Ridge, Burton Mesa, and Point Sal areas; 90-365 m. Endemic to Santa Barbara County	None. Suitable habitat not present within Study Area. Study Area is outside the species' known range.	No.	No Effect.

	Common Name *Scientific Name*	**Fed/State Status Global/State Rank Rare Plant Rank**	**Blooming Period**	**Habitat Preference**	**Potential to Occur**	**Detected within Study Area?**	**Effect of Proposed Activity**
6.	**Santa Lucia Manzanita** *Arctostaphylos luciana*	None/None G2/S2 1B.2	December - March	Shale outcrops, slopes, chaparral, 500-700 m. Cuesta Pass, SLO County.	None. Suitable habitat not present within Study Area.	No.	No Effect.
7.	**Bishop Manzanita** *Arctostaphylos obispoensis*	None/None G3/S3 4.3	February - June	Rocky, gen serpentine soils, chaparral, open close-cone forest near coast; 60-950 m; SCoRO	None. Suitable soils and habitat not present within Study Area.	No.	No Effect.
8.	**Pecho Manzanita** *Arctostaphylos pechoensis*	None/None G2/S2 1B.2	November - March	Shale outcrops, chaparral, coniferous forest; <850 m. s CCo (Pecho Hills, SLO)	None. Suitable habitat not present within Study Area.	No.	No Effect.
9.	**Santa Margarita Manzanita** *Arctostaphylos pilosula*	None/None G2?/S2? 1B.2	December - May	Shale outcrops, slopes, chaparral; 300-1100 m. s SCoRO Endemic to SLO County	None. Suitable habitat not present within Study Area.	No.	No Effect.
10.	**La Purissima Manzanita** *Arctostaphylos purissima*	None/None G2/S2 1B.1	November - May	Sandstone outcrops and sandy soil in chaparral;	None. Suitable habitat not present within Study Area.	No.	No Effect.
11.	**Sand Mesa Manzanita** *Arctostaphylos rudis*	None/None G2/S2 1B.2	November - February	Sandy soils, chaparral. <100m. s CCo (Nipomo, Burton Mesa, Pt. Sal, sw SLO, nw SB Counties	None. Suitable chaparral habitat not present within Study Area.	No.	No Effect.

	Common Name *Scientific Name*	**Fed/State Status** **Global/State Rank** **Rare Plant Rank**	**Blooming Period**	**Habitat Preference**	**Potential to Occur**	**Detected within Study Area?**	**Effect of Proposed Activity**
12.	**Marsh Sandwort** *Arenaria paludicola*	FE/CE G1/S1 1B.1	May - August	Boggy meadows, marshes; <300 m. s CCo (Nipomo Mesa, SLO County, Santa Ana River, SCo)	None. Suitable habitat not present within Study Area.	No.	No Effect.
13.	**Miles' Milk-Vetch** *Astragalus didymocarpus* var. *milesianus*	None/None G5T2/S2 1B.2	March - June	Clay or serpentine soils in coastal scrub, grassy areas near coast. 0-90 m. Endemic to SLO County	None. Suitable soils and habitat not present within Study Area.	No.	No Effect.
14.	**Ocean Bluff Milk-Vetch** *Astragalus nuttallii* var. *nuttallii*	None/None G4T4/S4 4.2	January - November	Rocks, coastal bluff scrub, coastal dunes; 3-120 m.	None. Suitable habitat not present within Study Area.	No.	No Effect.
15.	**Davidson's Saltscale** *Atriplex serenana* var. *davidsonii*	None/None G5T1/S1 1B.2	April - October	Coastal bluffs; <200 m.	None. Suitable habitat not present within Study Area.	No.	No Effect.
16.	**Brewer's Calandrinia** *Calandrinia breweri*	None/None G4/S4 4.2	(January) March - June	Sandy to loamy soil, disturbed sites, burns, coastal scrub or chapparal; <1200m. NCoR, c SNF, SnFrB, SCoRO, SCo, WTR; n Baja CA	None. Suitable soils not present within Study Area.	No.	No Effect.

	Common Name *Scientific Name*	**Fed/State Status Global/State Rank Rare Plant Rank**	**Blooming Period**	**Habitat Preference**	**Potential to Occur**	**Detected within Study Area?**	**Effect of Proposed Activity**
17.	**Club-haired mariposa lily** *Calochortus clavatus* var. *clavatus*	None/None G4T3/S3 4.3	(March) May - June	Generally serpentine; <1300m. s SCoRO, n SCoRI, WTR, SnGb	None. Suitable soils not present within Study Area.	No.	No Effect.
18.	**San Luis Mariposa-lily** *Calochortus obispoensis*	None/None G2/S2 1B.2	May - July	Chaparral, coastal scrub, valley and foothill grassland, often on serpentine but also sandstone; 100-500 m. SCoRO Endemic to SLO County	None. Suitable soils and habitat not present within Study Area.	No.	No Effect.
19.	**La Panza Mariposa-lily** *Calochortus simulans*	None/None G2/S2 1B.3	April - June	Grassland, oak woodland & pine forest, on sand, granite, or serpentine; <1100 m. Endemic to SLO County	None. Suitable habitat not present within Study Area.	No.	No Effect.
20.	**Cambria Morning-Glory** *Calystegia subacaulis* ssp. *episcopalis*	None/None G3T2/S2 4.2	(March) April – June (July)	Dry, open scrub, woodland, or grassland; <500 m. c SCoRO Endemic to SLO County	None. Suitable habitat not present within Study Area.	No.	No Effect.
21.	**San Luis Obispo Sedge** *Carex obispoensis*	None/None G3?/S3? 1B.2	April - June	Serpentine springs, stream sides; <600 m. Endemic to SLO County	None. Suitable soils and habitat not present within Study Area.	No.	No Effect.

	Common Name *Scientific Name*	Fed/State Status Global/State Rank Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur	Detected within Study Area?	Effect of Proposed Activity
22.	**San Luis Obispo Owl's-clover** *Castilleja densiflora* var. *obispoensis*	None/None G5T2/S2 1B.2	March - May	Coastal grassland, <100 m. Endemic to SLO County.	Low. Grassland is present in Study Area, but it is highly disturbed.	No.	No Effect.
23.	**Lompoc Ceanothus** *Ceanothus cuneatus* var. *fascicularis*	None/None G5T4/S4 4.2	February - April	Chaparral on coastal sandy mesas; <400 m. s Cco	None. Suitable habitat not present within Study Area.	No.	No Effect.
24.	**Point Reyes Ceanothus** *Ceanothus gloriosus* var. *gloriosus*	None/None G4T4/S4 4.3	March - May	Sandy places, coastal bluffs, closed-cone-pine forest; < 500 m. s NCo, n CCo (Marin Co.)	None. Suitable habitat not present within Study Area.	No.	No Effect.
25.	**Congdon's Tarplant** *Centromadia parryi* ssp. *congdonii*	None/None G3T2/S2 1B.1	May – October (November)	Mesic grassland, open ground; <100 m. CW	None. Suitable habitat not present within Study Area.	No.	No Effect.
26.	**Coastal Goosefoot** *Chenopodium littoreum*	None/None G2/S2 1B.2	April - August	Generally sandy soils, dunes; <40m. s CCo	None. Suitable habitat not present within Study Area.	No.	No Effect.
27.	**Dwarf Soaproot** *Chlorogalum pomeridianum* var. *minus*	None/None G5T3/S3 1B.2	May - August	Serpentine outcrops in chaparral; gen <750 m. NCoRI, SnFrB, SCoRO	None. Suitable soils and habitat not present within Study Area.	No.	No Effect.

	Common Name *Scientific Name*	Fed/State Status Global/State Rank Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur	Detected within Study Area?	Effect of Proposed Activity
28.	**Brewer's Spineflower** *Chorizanthe breweri*	None/None G3/S3 1B.3	April - August	Chaparral, foothill woodland on serpentine; <800 m. Endemic to SLO County	None. Suitable soils and habitat not present within Study Area.	No.	No Effect.
29.	**Palmer's Spineflower** *Chorizanthe palmeri*	None/None G4/S4 4.2	April - August	Serpentine; 60-700m. SCoRO (w Monterey, w San Luis Obispo cos.)	None. Suitable soils and habitat not present within Study Area.	No.	No Effect.
30.	**Straight-awned Spineflower** *Chorizanthe rectispina*	None/None G2/S2 1B.3	April - July	Chaparral, dry woodland in sandy soil; 200-600 m. SCoRO	None. Suitable habitat not present within Study Area.	No.	No Effect.
31.	**San Luis Obispo Fountain Thistle** *Cirsium fontinale* var. *obispoense*	FE/CE G2T2/S2 1B.2	February – July (August - September)	Serpentine seeps and streams; <300 m. Endemic to SLO County	None. Suitable soils and habitat not present within Study Area.	No.	No Effect.
32.	**Compact Cobwebby Thistle** *Cirsium occidentale* var. *compactum*	None/None G3G4T2/S2 1B.2	April - June	Coastal bluffs, on dune sand or clay; 5-155 m. CCo	None. Suitable habitat not present within Study Area.	No.	No Effect.
33.	**Surf Thistle** *Cirsium rhothophilum*	None/CT G1/S1 1B.2	April - June	Dunes, bluffs; <20 m. s CCo (s SLO, n SB Counties)	None. Suitable habitat not present within Study Area.	No.	No Effect.

	Common Name *Scientific Name*	**Fed/State Status Global/State Rank Rare Plant Rank**	**Blooming Period**	**Habitat Preference**	**Potential to Occur**	**Detected within Study Area?**	**Effect of Proposed Activity**
34.	**La Graciosa Thistle** *Cirsium scariosum* var. *loncholepis*	FE/CT G5Ti/S1 1B.1	May - August	Marshes, dune wetlands; <50m. s CCo (sw San Luis Obispo, nw Santa Barbara counties)	None. Suitable habitat not present within Study Area.	No.	No Effect.
35.	**Seaside Cistanthe** *Cistanthe maritima*	None/None G3G4/S3 4.2	(February) March – June (August)	Coastal scrub, sandy soil, sea bluffs. <300 m. SoCo, ChI. Santa Barbara County and south.	None. Suitable habitat not present within Study Area.	No.	No Effect.
36.	**California Saw-grass** *Cladium californicum*	None/None G4/S2 2B.2	June - September	Freshwater and alkali marshes and seeps;	None. Suitable habitat not present within Study Area.	No.	No Effect.
37.	**Pismo Clarkia** *Clarkia speciosa* ssp. *immaculata*	FE/CR G4T1/S1 1B.1	May - July	Sandy hills near coast; <100 m. s CCo (±Pismo to Edna, SLO County)	None. Suitable habitat not present within Study Area.	No.	No Effect.
38.	**Small-flowered Morning-glory** *Convolvulus simulans*	None/None G4/S4 4.2	March - July	Clay substrates, occ serpentine, ann grassland, coastal-sage scrub, chaparral; 30-875 m.; s SNF, SnFrB, s SCoRO, Sco, ChI, WTR, PR; AZ, Baja CA.	None. Suitable soils and habitat not present within Study Area.	No.	No Effect.

	Common Name *Scientific Name*	**Fed/State Status** **Global/State Rank** **Rare Plant Rank**	**Blooming Period**	**Habitat Preference**	**Potential to Occur**	**Detected within Study Area?**	**Effect of Proposed Activity**
39.	**Branching Beach Aster** *Corethrogyne leucophylla*	None/None G3Q/S3 3.2	July - October, May, December	Coastal dunes, scrub. <2500 m. s SN, San Joaquin Valley, CW, SW, n Baja.	None. Suitable habitat not present within Study Area.	No.	No Effect.
40.	**Gaviota Tarplant** *Deinandra increscens* ssp. *villosa*	FE/CE G4G5T2/S2 1B.1	May - October	Grassland and coastal scrub ecotone on coastal terraces from Point Sal south to vicinity of Goleta;	None. Suitable habitat not present within Study Area. Study Area outside known species' range.	No.	No Effect.
41.	**Paniculate Tarplant** *Deinandra paniculata*	None/None G4/S4 4.2	(March) April - November	Grassland, open chaparral and woodland, often in sandy soils; <1320 m. s CCo, s SCoRO, SCo, WTR, PR	Low. Grassland is present in Study Area, but it is highly disturbed.	No.	No Effect.
42.	**Dune Larkspur** *Delphinium parryi* ssp. *blochmaniae*	None/None G4/T2 1B.2	April - June	Coastal chaparral, sand. 0-200 m. s CCo	None. Suitable habitat not present within Study Area.	No.	No Effect.
43.	**Eastwood's Larkspur** *Delphinium parryi* ssp. *eastwoodiae*	None/None G4T2/S2 1B.2	(February) March - March	Coastal chaparral, grassland, on serpentine; 100-500m sCCo, SCoRO (San Luis Obispo County)	None. Suitable soils not present within Study Area.	No.	No Effect.
44.	**Umbrella Larkspur** *Delphinium umbraculorum*	None/None G3/S3 1B.3	April - June	Moist oak forest; 400-1600 m. SCoRO, WTR.	None. Suitable habitat not present within Study Area.	No.	No Effect.

	Common Name *Scientific Name*	**Fed/State Status** **Global/State Rank** **Rare Plant Rank**	**Blooming Period**	**Habitat Preference**	**Potential to Occur**	**Detected within Study Area?**	**Effect of Proposed Activity**
45.	**Beach Spectaclepod** *Dithyrea maritima*	None/CT G1/S1 1B.1	March - May	Sea shores, sandy soils on dunes near the shore; <50 m s CCo, SCo, Baja CA.	None. Suitable habitat not present within Study Area.	No.	No Effect.
46.	**Betty's Dudleya** *Dudleya abramsii* ssp. *bettinae*	None/None G4T2/S2 1B.2	May - July	Rocky outcrops in serpentine grassland; <50-180 m. Endemic to SLO County	None. Suitable habitat not present within Study Area.	No.	No Effect.
47.	**Mouse-Gray Dudleya** *Dudleya abramsii* ssp. *murina*	None/None G4T2/S2 1B.3	May - June	Serpentine outcrops; 120-300 m. Endemic to SLO County	None. Suitable soils and habitat not present within Study Area.	No.	No Effect.
48.	**Blochman's Dudleya** *Dudleya blochmaniae* ssp. *blochmaniae*	None/None G4T2/S2 1B.1	April - June	Open, rocky slopes, often serpentine or clay soils; <450 m. s CCo, SCo	None. Suitable soils and habitat not present within Study Area.	No.	No Effect.
49.	**Blochman's Leafy Daisy** *Erigeron blochmaniae*	None/None G2/S2 1B.2	June - August	Sand dunes and hills; <30 m. s CCo	None. Suitable habitat not present within Study Area.	No.	No Effect.
50.	**Indian Knob Mountain Balm** *Eriodictyon altissimum*	FE/CE G1/S1 1B.1	March - June	Sandstone ridges, chaparral; 250± m. Endemic to SLO County	None. Suitable habitat not present within Study Area.	No.	No Effect.

	Common Name *Scientific Name*	Fed/State Status Global/State Rank Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur	Detected within Study Area?	Effect of Proposed Activity
51.	**Hoover's Button-celery** *Eryngium aristulatum* var. *hooveri*	None/None G5T1/S1 1B.1	(June) July (August)	Vernal pools, lagunas; 0-1000 m. s SnFrB, SCoR	None. Suitable habitat not present within Study Area.	No.	No Effect.
52.	**Suffrutescent Wallflower** *Erysimum suffrutescens*	None/None G3/S3 4.2	January – July (August)	Coastal dunes and bluffs; 0-150 m. CCo, SCo	None. Suitable habitat not present within Study Area.	No.	No Effect.
53.	**Mesa Horkelia** *Horkelia cuneata* var. *puberula*	None/None G4T1/S1 1B.1	February – July (September)	Dry, sandy coastal chaparral; gen 70-700 m. SCoRO, SCo.	None. Suitable habitat not present within Study Area.	No.	No Effect.
54.	**Kellogg's Horkelia** *Horkelia cuneata* var. *sericea*	None/None G4T1?/S1? 1B.1	April - September	Old dunes, coastal sand hills; <200 m. CCo	None. Suitable habitat not present within Study Area.	No.	No Effect.
55.	**Jones's Layia** *Layia jonesii*	None/None G2/S2 1B.2	March - May	Open serpentine or clay slopes; <400 m. Endemic to SLO County	None. Suitable soils and habitat not present within Study Area.	No.	No Effect.
56.	**Small-leaved Lomatium** *Lomatium parvifolium*	None/None G1/S1 4.2	January - June	Pine woodland, serpentine outcrops; 70-150 m. CCo, SCoR	None. Suitable soils and habitat not present within Study Area.	No.	No Effect.

	Common Name *Scientific Name*	**Fed/State Status Global/State Rank Rare Plant Rank**	**Blooming Period**	**Habitat Preference**	**Potential to Occur**	**Detected within Study Area?**	**Effect of Proposed Activity**
57.	**San Luis Obispo County Lupine** *Lupinus ludovicianus*	None/None G1/S1 1B.2	April - July	Open, grassy limestone in oak woodland; 50-500 m. Endemic to SLO County	None. Suitable habitat not present within Study Area.	No.	No Effect.
58.	**Nipomo Mesa Lupine** *Lupinus nipomensis*	FE/CE G1/S1 1B.1	December - May	Stabilized sand dunes; <25m. s CCo (Nipomo dunes, sw SLO County)	None. Suitable habitat not present within Study Area.	No.	No Effect.
59.	**Slender Bush-mallow** *Malacothamnus gracilis*	None/None G1Q/S1 1B.1	May - October	Rocky habitats; chaparral; 190-575 m.	None. Suitable habitat not present within Study Area. No longer a valid taxon; now a synonym of *M. jonesii.*	No.	No Effect.
60.	**Jones' Bush Mallow** *Malacothamnus jonesii*	None/None G4/S4 4.3	(March) April - October	Open chaparral in foothill woodland; 250-830 m. SCoRO (Monterey, SLO Counties).	None. Suitable habitat not present within Study Area.	No.	No Effect.
61.	**Dunedelion** *Malacothrix incana*	None/None G3G4/S3S4 4.3	(January) April - October	Sandy coastal dunes; <300 m. CCo, Sco	None. Suitable habitat not present within Study Area.	No.	No Effect.

	Common Name *Scientific Name*	Fed/State Status Global/State Rank Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur	Detected within Study Area?	Effect of Proposed Activity
62.	**Southern Curly-leaved Monardella** *Monardella sinuata* ssp. *sinuata*	None/None G3T2/S2 1B.2	April - September	Sandy soils, coastal strand, dune and sagebrush scrub, coastal chaparral and woodland; <300 m. Cco, SCoRO, extirpated Sco.	None. Suitable habitat not present within Study Area.	No.	No Effect.
63.	**Crisp Monardella** *Monardella undulata* ssp. *crispa*	None/None G3T2/S2 1B.2	April – August (December)	Active dunes; <100 m. s CCo (San Luis Obispo and Santa Barbara Counties)	None. Suitable habitat not present within Study Area.	No.	No Effect.
64.	**San Luis Obispo Monardella** *Monardella undulata* ssp. *undulata*	None/None G2/S2 1B.2	May - September	Stabilized dunes, coastal scrub, stabilized sandy soils; <200 m. CCo.	None. Suitable habitat not present within Study Area.	No.	No Effect.
65.	**California Spineflower** *Mucronea californica*	None/None G3/S3 4.2	March - July(August)	Sandy soil in coastal scrub, chaparral; 0-1400 m. CS, SW	None. Suitable habitat not present within Study Area.	No.	No Effect.
66.	**Gambel's Water Cress** *Nasturtium gambelii*	FE/CT G1/S1 1B.1	April - October	Marshes, stream banks, lake margins; <1250 m. s CCo, SCo, to Mexico	Low. Wetland habitat is present but highly disturbed.	No.	No Effect.
67.	**Coast Woolly-heads** *Nemacaulis denudata* var. *denudata*	None/None G3G4T2/S2 1B.2	April - September	Coastal dunes; 0-100 m.	None. Suitable habitat not present within Study Area.	No.	No Effect.

	Common Name *Scientific Name*	Fed/State Status Global/State Rank Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur	Detected within Study Area?	Effect of Proposed Activity
68.	**Robbins' Nemacladus** *Nemacladus secundiflorus* var. *robbinsii*	None/None G3T2/S2 1B.2	April - June	Chaparral, valley and foothill grassland/ openings; 350-1700 m.	None. Suitable habitat not present within Study Area.	No.	No Effect.
69.	**Short-Lobed Broomrape** *Orobanche parishii* ssp. *brachyloba*	None/None G4?T4/S3 4.2	April - October	Sandy habitats; coastal bluff scrub; coastal dunes. Parasitic on shrubs. 3-305 m. SCo; ChI; Baja.	None. Suitable habitat not present within Study Area.	No.	No Effect.
70.	**Adobe Yampah** *Perideridia pringlei*	None/None G4/S4 4.3	April – June (July)	Grassy slopes, serpentine outcrops; 300-1800 m. The, SCoR, WTR.	None. Suitable soils and habitat not present within Study Area.	No.	No Effect.
71.	**South Coast Branching Phacelia** *Phacelia ramosissima* var. *austrolitoralis*	None/None G5?T3/S3 3.2	March - August	Chaparral, Coastal dunes, coastal scrub, coastal salt marshes and swamps; rocky or sandy. 5-300 m. CCo, SCo, ChI.	None. Suitable habitat not present within Study Area.	No.	No Effect.
72.	**Sand Almond** *Prunus fasciculata* var. *punctata*	None/None G5T4/S4 4.3	March - April	Sandy soils in maritime chaparral, cismontane woodland, coastal dunes, coastal scrub.	None. Suitable habitat not present within Study Area.	No.	No Effect.
73.	**Hoffmann's Sanicle** *Sanicula hoffmannii*	None/None G3/S3 4.3	March - May	Shrubby coastal hills, pine woodland; <500m. CCo, SCo, n ChI	None. Suitable habitat not present within Study Area.	No.	No Effect.

	Common Name *Scientific Name*	Fed/State Status Global/State Rank Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur	Detected within Study Area?	Effect of Proposed Activity
74.	**Black-Flowered Figwort** *Scrophularia atrata*	None/None G2?/ S2? 1B.2	March - July	Closed-cone coniferous forest, riparian scrub, dune habitats; in sand, diatomaceous shales, calcareous and other soil types. 10-250 m. s SCoRO	Low. Riparian habitat and sandy soils are present in Study Area, but habitat is highly disturbed.	No.	No Effect.
75.	**Chaparral Ragwort** *Senecio aphanactis*	None/None G3/S2 2B.2	January - April(May)	Drying alkaline flats, chaparral, cismontane woodland, coastal scrub; <400 m. CW, SCo, ChI	None. Suitable habitat not present within Study Area.	No.	No Effect.
76.	**San Gabriel Ragwort** *Senecio astephanus*	None/None G3/S3 4.3	May - July	Drying alkaline flats, chaparral, cismontane woodland, coastal scrub; <400 m. CW, SCo, ChI	None. Suitable habitat not present within Study Area.	No.	No Effect.
77.	**Blochman's Ragwort** *Senecio blochmaniae*	None/None G3/S3 4.2	May - Nov	Coastal sand dunes, sandy floodplains; <150 m. CCo.	None. Suitable habitat not present within Study Area.	No.	No Effect.
78.	**Guirado's Goldenrod** *Solidago guiradonis*	None/None G3G4/S3S4 4.3	September - October	Near streams in asbestos-laden soils; 600-900 m. SCoRI	None. Suitable soils and habitat not present within Study Area.	No.	No Effect.

	Common Name *Scientific Name*	Fed/State Status Global/State Rank Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur	Detected within Study Area?	Effect of Proposed Activity
79.	**San Bernardino Aster** *Symphyotrichum defoliatum*	None/None G2/S2 1B.2	July - November	Vernally mesic grasslands near ditches, streams, springs, or disturbed areas; 2-2040 m.	Low. Potentially suitable habitat is present in the Study Area, but Study Area is outside the confirmed range for this species.	No.	No Effect.

California Geographic Subregion Abbreviations:

CCo: Central Coast	SnFrB: San Francisco Bay	SLO: San Luis Obispo	CW: Central West
SCo: South Coast	TR: Transverse Ranges	SN: Sierra Nevada	SW: South West
SCoR: South Coast Ranges	WTR: Western Transverse Ranges	SnJt: San Jacinto Mtns	DMoj: Mojave Desert
SCoRO: Outer South Coast Ranges	SnJV: San Joaquin Valley	SnBr: San Bernardino	PR: Peninsular Range
SCoRI: Inner South Coast Ranges	ScV: Sacramento Valley	Teh: Tehachapi Mtn Area	

State/Rank Abbreviations:

FE: Federally Endangered	PT: Proposed Federally Threatened	CT: California Threatened
FT: Federally Threatened	CE: California Endangered	Cand. CE: Candidate for California Endangered
PE: Proposed Federally Endangered	CR: California Rare	Cand. CT: Candidate for California Threatened

California Rare Plant Ranks:

CRPR 1A: Plants presumed extirpated in California and either rare or extinct elsewhere
CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
CRPR 2A: Plants presumed extirpated in California, but common elsewhere
CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
CRPR 4: Plants of limited distribution - a watch list

CRPR Threat Ranks:

0.1 - Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2 - Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3 - Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Global/State Ranks:

G1/S1 – Critically Imperiled	Q – Element is very rare but there are taxonomic questions
G2/S2 – Imperiled	associated with it.
G3/S3 – Vulnerable	Range rank – (e.g., S2S3 means rank is somewhere
G4/S4 – Apparently Secure	between S2 and S3)
G5/S5 – Secure	? – (e.g., S2? Means rank is more certain than S2S3 but less certain that S2)

APPENDIX C. SPECIAL STATUS ANIMALS REPORTED FROM THE REGION

	Common Name *Scientific Name*	Fed/State Status Global/State Rank CDFW Rank	Nesting-Breeding Period	Habitat Preference	Potential to Occur	Detected Within Study Area?	Effect of Proposed Activity
1.	**Oso Flaco robber fly** *Ablautus schlingeri*	None/None G1/S1 Special Animal	n/a	Interior dunes.	None. Suitable habitat is not present in the Study Area.	No.	No Effect.
2.	**Sharp-shinned Hawk** *Accipiter striatus*	None/None G5/S4 Special Animal (Nesting)	March 15 through August 15	Riparian, coniferous, and deciduous woodlands near water.	None. No suitable nesting habitat is present in the Study Area.	No.	No Effect.
3.	**Tricolored blackbird** *Agelaius tricolor*	None/Candidate Endangered G2G3/S1S2 SSC	March 15 through August 15	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California.	None. Suitable nesting habitat is not present in the Study Area.	No.	No Effect.
4.	**California Tiger Salamander** *Ambystoma californiense*	Threatened/ Threatened G2G3/S2S3 SSC	Rainy season	Need underground refuges, ground squirrel burrows & vernal pools or other seasonal water for breeding.	None. Suitable habitat is not present in the Study Area and there are no known occurrences within 5 miles.	No.	No Effect.
5.	**Northern California Legless Lizard** *Anniella pulchra*	None/None G3/S3 SSC	May - September	Sandy or loose loamy soils under coastal scrub or oak trees. Soil moisture essential.	None. Suitable habitat is not present in the Study Area.	No.	No Effect.

	Common Name *Scientific Name*	**Fed/State Status** **Global/State Rank** **CDFW Rank**	**Nesting-Breeding Period**	**Habitat Preference**	**Potential to Occur**	**Detected Within Study Area?**	**Effect of Proposed Activity**
6.	**Oso Flaco Flightless Moth** *Areniscythris brachypteris*	None/None G1/S1 Special Animal	n/a	Open, coastal sand dune slopes in San Luis Obispo County.	None. Suitable habitat is not present in the Study Area.	No.	No Effect.
7.	**Burrowing Owl** *Athene cunicularia*	None/None G4/S3 SSC (Burrow sites and some wintering sites)	March 15 through August 15	Burrows in squirrel holes in open habitats with low vegetation.	Low. Study Area has a low number of ground squirrel burrows.	No.	No Effect.
8.	**Obscure Bumble Bee** *Bombus caliginosus*	None/None G4?/S1S2 Special Animal	Spring	Open coastal grasslands and meadows.	Low. Potentially suitable habitat is present in Study Area.	No.	No Effect.
9.	**Western Bumble Bee** *Bombus occidentalis*	None/None G2G3/S1 Special Animal	n/a	Wide variety of natural, agricultural, urban, and rural habitats. Flower-rich meadows of forests and subalpine zones.	Low. Potentially suitable habitat is present in Study Area.	No.	No Effect.
10.	**Vernal Pool Fairy Shrimp** *Branchinecta lynchi*	Threatened/None G3/S3 Special Animal	Rainy Season	Clear water sandstone depression pools, grassed swale, earth slump, or basalt flow depression pools.	None. Suitable habitat is not present in the Study Area.	No.	No Effect.

	Common Name *Scientific Name*	**Fed/State Status** **Global/State Rank** **CDFW Rank**	**Nesting-Breeding Period**	**Habitat Preference**	**Potential to Occur**	**Detected Within Study Area?**	**Effect of Proposed Activity**
11.	**Swainson's Hawk** *Buteo swainsoni*	None/Threatened G5/S3 Special Animal (Nesting)	March 15 through August 15	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, agricultural fields.	None. Suitable nesting habitat is not present in the Study Area.	No.	No Effect.
12.	**Western Snowy Plover** *Charadrius alexandrinus nivosus*	Threatened/None G3T3/S2S3 SSC	March 15 through August 15	Sandy beaches, salt pond levees, & shorelines of large alkali lakes. Needs friable soils for nesting.	None. Suitable habitat is not present in the Study Area.	No.	No Effect.
13.	**Oso Flaco Patch Butterfly** *Chlosyne leanira elegans*	None/None G4G5T1T2/S1S2 Special Animal	n/a	Sand dune habitat around Oso Flaco Lake, SLO County. Larval food plant is *Castilleja affinis.*	None. Suitable habitat is not present in the Study Area.	No.	No Effect.
14.	**Sandy Beach Tiger Beetle** *Cicindela hirticollis gravida*	None/None G5T2/S2 Special Animal	n/a	Adjacent to non-brackish water near the coast from San Francisco to N. Mexico. Clean, dry, light-colored sand in the upper zone.	None. Suitable habitat is not present in the Study Area.	No.	No Effect.

	Common Name *Scientific Name*	**Fed/State Status** **Global/State Rank** **CDFW Rank**	**Nesting-Breeding Period**	**Habitat Preference**	**Potential to Occur**	**Detected Within Study Area?**	**Effect of Proposed Activity**
15.	**Western Yellow-billed Cuckoo** *Coccyzus americanus occidentalis*	Threatened/Endangered G5T2T3/S1 Special Animal	March 15 through August 15	Nests in riparian jungles of willow, cottonwood, w/ blackberry, nettles, or wild grape understory. Typically found in larger river systems.	None. Suitable habitat is not present in the Study Area.	No.	No Effect.
16.	**Globose Dune Beetle** *Coelus globosus*	None/None G1G2/S1S2 Special Animal	n/a	Coastal sand dune habitat. Inhabits foredunes and sand hummocks.	None. Suitable habitat is not present in the Study Area.	No.	No Effect.
17.	**Townsend's Big-eared Bat** *Corynorhinus townsendii*	None/None G3G4/S2 SSC	Spring - Summer	Caves, buildings, and mine tunnels. Cave- like attics as day roosts. On coast roosts are normally within 100 m. of creeks.	None. Suitable habitat is not present in the Study Area.	No.	No Effect.
18.	**Monarch Butterfly** *Danaus plexippus*	None/None G4T2T3/S2S3 Special Animal	September - March (aggregations)	Roosts located in wind-protected tree groves with nectar and water nearby.	None. Suitable habitat is not present in the Study Area.	No.	No Effect.
19.	**White-tailed Kite** *Elanus leucurus*	None/None G5/S3S4 Fully Protected	March 15 through August 15	Nests in dense tree canopy near open foraging areas	None. Suitable nesting habitat is not present in the Study Area.	No.	No Effect.

	Common Name *Scientific Name*	**Fed/State Status** **Global/State Rank** **CDFW Rank**	**Nesting-Breeding Period**	**Habitat Preference**	**Potential to Occur**	**Detected Within Study Area?**	**Effect of Proposed Activity**
20.	**Western Pond Turtle** *Emys marmorata*	None/None G3G4/S3 SSC	April - August	Permanent or semi-permanent streams, ponds, lakes.	None. There is no breeding habitat in the Study Area. There are multiple roads and a perimeter fence between the Study Area and Arroyo Grande Creek where turtles may occur.	No.	No Effect.
21.	**Tidewater Goby** *Eucyclogobius newberryi*	Endangered/None G3/S3 SSC	n/a	Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	None. Suitable habitat is not present in the Study Area.	No.	No Effect.
22.	**Prairie Falcon** *Falco mexicanus*	None/None G5/S4 WL (Nesting)	March 15 through August 15	Inhabits dry, open terrain. Nests on cliffs near open areas for hunting.	None. Suitable habitat is not present in the Study Area.	No.	No Effect.
23.	**American Peregrine Falcon** *Falco peregrinus anatum*	De-listed/De-listed G4T4/S3S4 Fully Protected	March 15 through August 15	Nests on cliffs, banks, dunes, mounds, and human-made structures, especially near water.	None. Suitable nesting habitat is not present in the Study Area.	No.	No Effect.

	Common Name *Scientific Name*	Fed/State Status Global/State Rank CDFW Rank	Nesting-Breeding Period	Habitat Preference	Potential to Occur	Detected Within Study Area?	Effect of Proposed Activity
24.	**Arroyo Chub** *Gila Orcuttii*	None/ None G2/S2 SSC	No data	Slow water stream sections with mud or sand bottom; feeds heavily on aquatic veg and invertebrates	None. Suitable habitat is not present in the Study Area.	No.	No Effect.
25.	**California Condor** *Gymnogyps californianus*	Endangered/Endangered G1/S1 Fully Protected	March 15 through August 15	Wide-ranging over Coast Ranges from Ventura to Big Sur. High Mtn Condor Lookout located in Pozo.	None. Suitable habitat is not present in the Study Area.	No.	No Effect.
26.	**California Black Rail** *Laterallus jamaicensis coturniculus*	None/Threatened G3G4T1/S1 Fully Protected	March 15 through August 15	Occurs in tidal salt marsh heavily grown to pickleweed, also in freshwater and brackish marshes near the coast.	Low. Marginal salt marsh habitat is present in the Study Area.	No.	No Effect.
27.	**White Sand Bear Scarab Beetle** *Lichnanthe albipilosa*	None/None G1/S1 Special Animal	n/a	Found only in coastal sand dunes of SLO County, near Dune Lake, some distance from the surf.	None. Suitable habitat is not present in the Study Area.	No.	No Effect.
28.	**Steelhead - South/Central California Coast DPS** *Oncorhynchus mykiss irideus*	Threatened/None G5T2Q/S2 SSC	February - April	Fed listing refers to runs in coastal basins from Pajaro River south to, but not including, the Santa Maria River.	None. Suitable habitat is not present in the Study Area.	No.	No Effect.

	Common Name *Scientific Name*	**Fed/State Status** **Global/State Rank** **CDFW Rank**	**Nesting-Breeding Period**	**Habitat Preference**	**Potential to Occur**	**Detected Within Study Area?**	**Effect of Proposed Activity**
29.	**Coast Horned Lizard** *Phrynosoma blainvillii*	None/None G3G4/S3S4 SSC	May - September	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes.	None. Suitable habitat is not present in the Study Area.	No.	No Effect.
30.	**Morro Bay Blue Butterfly** *Plebejus icarioides moroensis*	None/None G5T2/S2 Special Animal	n/a	Inhabits stabilized dunes and surrounding areas in coastal SLO County (Morro Bay) and nw SB County. Dependent on dune lupine (*Lupinus chamissonis*).	None. Suitable habitat is not present in the Study Area.	No.	No Effect.
31.	**Foothill Yellow-legged Frog** *Rana boylii*	None/Candidate Threatened G3/S3 SSC	March - September	Partly shaded, shallow streams and riffles with rocky substrate. Min. 15 weeks for larval development.	None. Suitable habitat is not present in the Study Area. This species is extant only in far NW SLO County.	No.	No Effect.

32.	**California Red-legged Frog** *Rana draytonii*	Threatened/None G2G3/S2S3 SSC	January - September	Lowlands and foothills in or near sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks for larval development.	Low. There is no suitable breeding habitat present in the Study Area. Transient individuals may occur in upland habitat, but because there are multiple roads between Study Area and closest known occurrence, CRLF are unlikely to occur.	No.	Not Likely to Adversely Effect.
33.	**Yellow Warbler*** *Setophaga petechia brewsteri*	None/None G5/S3S4 SSC	March 15-August 15	Nests in riparian plant associations, including willows, cottonwoods, etc.	Moderate. There is no suitable breeding habitat within the Study Area, but suitable foraging habitat is present.	Yes.	No Effect.
34.	**Western Spadefoot Toad** *Spea hammondii*	None/None G3/S3 SSC	January – August	Vernal pools in grassland and woodland habitats	None. Suitable habitat is not present in the Study Area.	No.	No Effect.
35.	**California Least Tern** *Sternula antillarum browni*	Endangered/Endangered G4T2T3Q/S2 Fully Protected	March 15 through August 15	Nests on sand beaches, alkali flats, bare flat ground from San Francisco Bay to N. Baja California. Colonial breeder.	None. Suitable habitat is not present in the Study Area.	No.	No Effect.
36.	**Coast Range Newt** *Taricha torosa*	None/None G4/S4 SSC	December - May	Slow moving streams, ponds, and lakes with	None. Suitable habitat is not	No.	No Effect.

				surrounding evergreen/oak forests along coast.	present in the Study Area.		
37.	**American Badger** *Taxidea taxus*	None/None G5/S3 SSC	February – May	Needs friable soils in open ground with abundant food source such as California ground squirrels.	Low. California ground squirrels are present but not abundant.	No.	No Effect.
38.	**Two-striped Garter Snake** *Thamnophis hammondii*	None/None G4/S3S4 SSC	Spring	Coastal California from Salinas to Baja, sea level to 7000', aquatic, in or near permanent water, streams with rocky beds and riparian growth	None. Suitable habitat is not present in the Study Area.	No.	No Effect.
39.	**Mimic Tryonia** *Tryonia imitator*	None/None G2/S2 Special Animal	n/a	Inhabits coastal lagoons, estuaries, salt marshes from Sonoma to San Diego Counties.	None. Suitable habitat is not present in the Study Area.	No.	No Effect.

Abbreviations:

FE: Federally Endangered
FT: Federally Threatened
PE: Proposed Federally Endangered
PT: Proposed Federally Threatened
CE: California Endangered
CT: California Threatened
Cand. CE: Candidate for California Endangered
Cand. CT: Candidate for California Threatened
SSC: CDFW Species of Special Concern
FP: CDFW Fully-Protected

APPENDIX D. IPAC RESOURCE LIST

There is a total of 23 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Endangered Species

Mammals

NAME	STATUS
Giant Kangaroo Rat *Dipodomys ingens* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6051	Endangered
Southern Sea Otter *Enhydra lutris nereis* No critical habitat has been designated for this species. ***This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.*** Species profile: https://ecos.fws.gov/ecp/species/8560	Threatened

Birds

NAME	STATUS
California Clapper Rail *Rallus longirostris obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Condor *Gymnogyps californianus* Population: U.S.A. only, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered
California Least Tern *Sterna antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Marbled Murrelet *Brachyramphus marmoratus* Population: U.S.A. (CA, OR, WA) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened

Birds (cont.)

NAME	STATUS
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Tidewater Goby *Eucyclogobius newberryi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
Kern Primrose Sphinx Moth *Euproserpinus euterpe* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7881	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
California Jewelflower *Caulanthus californicus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4599	Endangered
Gambel's Watercress *Rorippa gambellii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4201	Endangered
La Graciosa Thistle *Cirsium loncholepis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6547	Endangered
Marsh Sandwort *Arenaria paludicola* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2229	Endangered
Nipomo Mesa Lupine Lupinus nipomensis No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5480	Endangered
Pismo Clarkia *Clarkia speciosa ssp. immaculata* No critical habitat has been designated for this species Species profile: https://ecos.fws.gov/ecp/species/5936	Endangered
Salt Marsh Bird's-beak *Cordylanthus maritimus ssp. maritimus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6447	Endangered
Spreading Navarretia *Navarretia fossalis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1334	Threatened

Critical Habitats

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

Source: IPaC, December 2019

APPENDIX E

Biological Assessment

Biological Assessment

for

Airfield Pavement and Facilities Improvements
Oceano County Airport

APN 061-093-044
Oceano, San Luis Obispo County, California

Prepared for

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Table of Contents

List of Tables

List of Figures

List of Appendices

Cover Page: Cover Page: View of wind cone surrounded by riparian and coastal brackish marsh habitat at Oceano County Airport. View facing southeast. Photo taken June 7, 2018.

1 INTRODUCTION

1.1 Purpose

This Biological Assessment (BA) provides information regarding plant and wildlife species currently listed, candidate, or proposed for listing under the federal Endangered Species Act (ESA) that occur or could occur on lands associated with the Airfield Pavement and Facilities Improvement Project at the Oceano County Airport (Project). The purpose of this report is to provide federal agencies with information regarding federally listed species that could potentially be affected by the Project. Results include a discussion of federally listed, candidate, or proposed for listing species that have potential to occur within the Action Area or be affected by the proposed Project. The effects of the proposed Project on federally listed, candidate, or proposed for listing species are evaluated and avoidance and minimization measures are outlined. This information is intended to support RS&H, the Oceano County Airport, and the FAA with the initiation of a section 7 consultation with the US Fish and Wildlife Service (USFWS) for the Project.

1.2 Species Considered in this Document

The Project (described and defined in Section 2.0) could potentially affect one species listed under the federal ESA. The Action Area (defined in Section 3.0) does not include any designated or proposed critical habitat for federally listed species. Therefore, this BA does not include specific analyses regarding federally designated critical habitat. The only listed species potentially affected is the federally threatened California red-legged frog (*Rana draytonii*).

Section 4.0 provides an analysis of the potential for California red-legged frog to occur in the Action Area. Section 5.0 provides a brief summary of potential impacts to listed species. Avoidance and Minimization Measures are provided in Section 6.0.

Appendix A and Appendix B contain tables of plants and animals detected in the Action Area during field surveys in 2018 and 2019.

Appendix C and Appendix D contain tables of federally-listed species reported from the region that were not detected within or near the Action Area and for which the Project would have "No Effect" for ESA purposes.

1.3 Summary of Effect Determinations

Based on the analysis contained in this BA, the Project is not likely to adversely affect California red-legged frog (Table 1).

TABLE 1. SUMMARY OF EFFECTS DETERMINATION

Species	Listing Status	Effects Determination
California red-legged frog	Threatened	Not Likely to Adversely Affect

2 PROJECT INFORMATION

2.1 Location

The Action Area is located at the Oceano County Airport, at 561 Air Park Drive, off State Route 1, within the Census Designated Place Oceano in San Luis Obispo County, California. The Action Area includes Assessor's Parcel Number (APN) 061-093-044. Approximate coordinates for the center of the Action Area are 35.101911° N / 120.623157° W (WGS84) in the United States Geological Survey (USGS) 7.5-minute topographic quadrangle Oceano (Figure 1). Elevation ranges from approximately 10 to 19 feet above mean sea level. The Action Area is approximately
0.25 miles from the Pacific Ocean, and is located within the Coastal Zone (Figure 2).

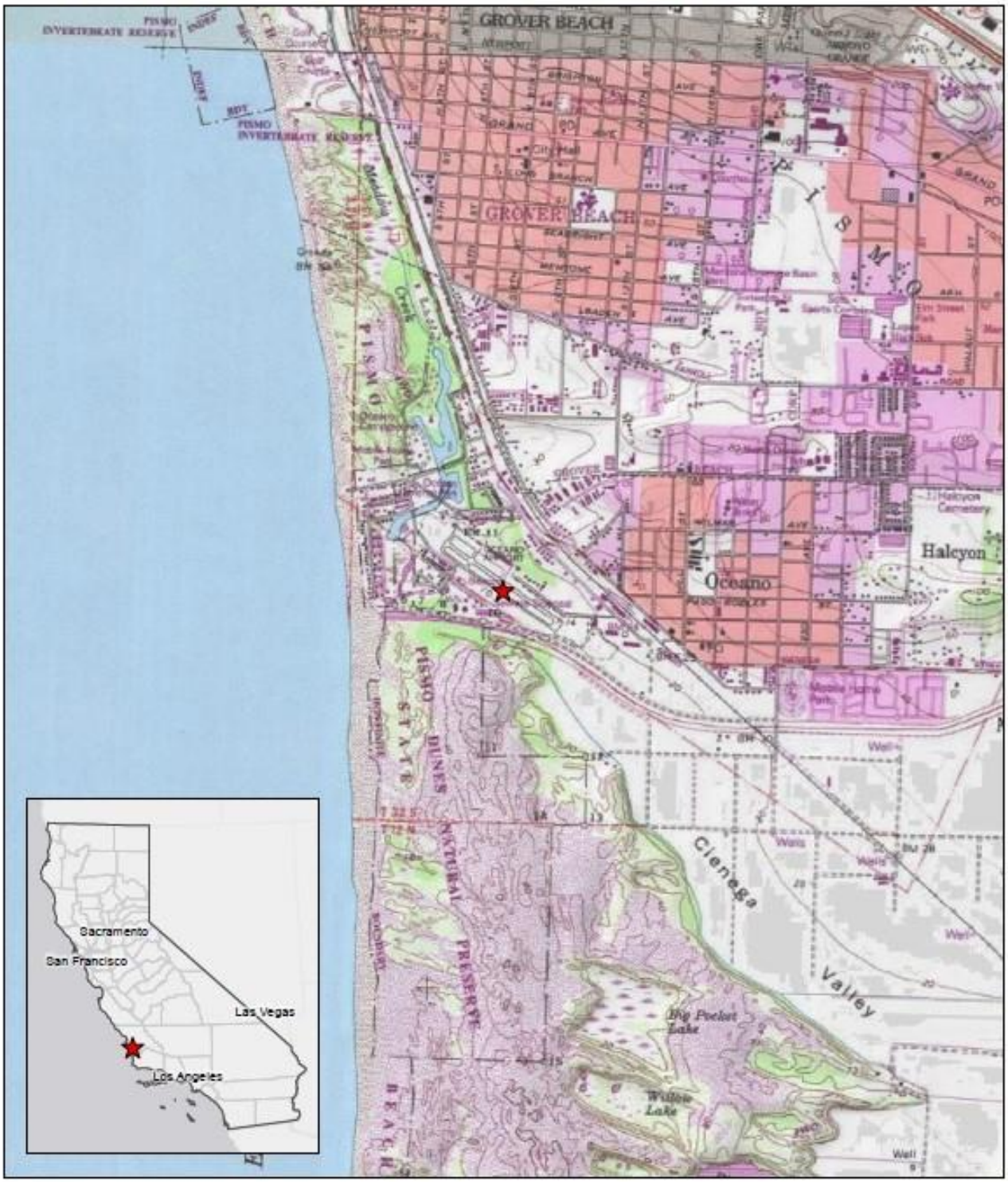
22 Project Description

The proposed Project at the Oceano County Airport includes widening runways and taxiways, and installation of new lighting, signage, an electrical vault, and a pollution control facility. The major components of the Project include:

- Widen runway from 50 to 60 feet (five feet on either side of the runway). Includes grading and paving the runway and grading the shoulders on either side of the runway to maintain required runway shoulder widths and drainage of stormwater flows to the existing drainage system. Also includes replacement of existing runway edge lighting.
- Widen Taxiways A, A-1, A-2, A-3, and A-4 from 20 to 25 feet (2.5 feet on either side of the taxiways). Includes grading and paving on either side of the taxiways, maintenance of required taxiway shoulder widths, and storm-water drainage consistent with Federal Aviation Administration (FAA) Airport Design standards. The project includes the replacement and installation of new taxiway edge lighting and the necessary extension of electrical power supply.
- Install hold position signage.
- Install new electrical vault and electrical connections. Includes demolition of existing electrical vault, existing parking, and existing obsolete house/office near the Air Park Circle entrance.
- Relocate segmented circle and wind cone. Includes an extension of the vehicle service road to the facilities and the extension of electrical power from the new electrical vault.
- Install a pollution control facility (aircraft wash rack) on existing pavement. Includes extension of power and water supply as well as the installation of appropriate storm-water runoff containment infrastructure consisting of collection piping and an oil/water separator. Storm-water not associated with aircraft washing would continue to discharge through existing storm-water conveyance infrastructure to the existing permitted outfall.

Site Plans are provided in Figure 3, for reference.

Figure 1. United States Geological Survey Topographic Map



Legend

★ Study Area Location

N

0 0.25 0.5 0.75 1 Mile

Oceano Airport
Map Center: 120.62229°W 35.10117°N
Oceano, San Luis Obispo County

USGS Quadrangle: Oceano

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
January 15, 2019 08:52 AM by JBB

Figure 2. Aerial Photograph

Legend

Study Area

0 200 400 600 800 Feet

N

Oceano Airport
Map Center: 120.62229°W 35.1015°N
Oceano, San Luis Obispo County

Imagery Date: 2/24/2017

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
January 15, 2019 08:53 AM by JBB

Figure 3. Site Plans

Legend

- Study Area
- Electrical Cables and Lights
- Fencing
- Pavement
- UNAVAID/AWOS

0 200 400 600 Feet

Oceano Airport
Map Center: 120.62238°W 35.10165°N
Oceano, San Luis Obispo County

Imagery Source: USDA NAIP, 07/14/2018

ALTHOUSE AND MEADE, INC.

Map Updated:
May 22, 2020 10:32 AM by SAF

3 ACTION AREA

The Action Area (i.e., all areas that could be affected directly or indirectly by Project implementation) evaluated in this BA is comprised of the Oceano County Airport. The Airport has one paved runway which is 2,325 long and 50 feet wide, and a parallel taxiway to the southwest which is approximately 20 feet wide. Parallel to the runway on the northeast is a wide area of tarmac for parking vehicles and airplanes, with a row of hangars along the northeast edge of the tarmac. A paved vehicle parking lot is located outside the entrance to the Airport, at the north end of the Action Area.

3.1 Environmental Baseline

The Action Area is primarily annual grassland with coastal brackish marsh interspersed within. These habitats are periodically mowed in and around the runway and taxiways for vegetation management. Anthropogenic habitat in the Action Area includes runways, taxiways, tarmac, and buildings. Along the perimeter of the tarmac is ruderal habitat where vegetation is sparse. Arroyo willow riparian woodland occurs along two bordering streams, Arroyo Grande Creek and Meadow Creek, on the southwest border of the Action Area. Ornamental trees grow in small numbers near the vehicle access point for the Action Area and adjacent to Oceano Memorial Campground. Mats of iceplant (*Carpobrotus edulis*) occur within some areas of annual grassland, primarily in the southeastern portion of the Action Area.

One individual soil map unit from the Natural Resource Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO) overlaps the Action Area, Mocho fine sandy loam (0 to 2 percent slopes) (USDA NRCS 2019) (Figure 4).

3.2 Habitat Type Descriptions

Seven habitat types are found within the Action Area (Table 2 and Figure 5). Most of the Action Area, approximately 23.42 acres, is mapped as annual grassland. Anthropogenic habitat comprises 10.51 acres. The remaining area primarily consists of coastal brackish marsh (approximately 4.67 acres) and arroyo willow riparian woodland habitat (approximately 1.56 acres). Ruderal (approximately 0.98 acres), iceplant mats (approximately 0.67 acre), and non-native ornamental trees (approximately 0.27 acre) occupy the rest of the Action Area.

TABLE 2. HABITAT TYPES

Habitat Type	Location in Action Area	Approximate Area (Acres)
Annual Grassland	Throughout Action Area	23.42
Coastal Brackish Marsh	Throughout Action Area	4.67
Arroyo Willow Riparian Woodland	Creeks bordering Action Area	1.56
Ruderal	Perimeter around tarmac, runway and taxiways	0.98
Iceplant Mats	Within annual grassland, southeastern portion of Action Area	0.67

Habitat Type	Location in Action Area	Approximate Area (Acres)
Non-Native Ornamental Trees	Small stand adjacent to Oceano Memorial Campground	0.27
Anthropogenic	Paved areas in central and northern part of Action Area	10.51

3.2.1 Annual Grassland

Annual grassland habitat is the dominant habitat within the Action Area and is present on approximately 23.42 acres. Non-native grasses such as ripgut brome (*bromus diandrus*), and Bermuda grass (*Cynodon dactylon*) are dominant within this habitat, as well as non-native forbs such as wild radish (*Raphanus sativus*), summer mustard (*Hirschfeldia incana*), and hairy vetch (*Vicia villosa*). Annual grassland within the Action Area is mowed regularly for maintenance purposes.

Photo 1. Mowed vegetation in annual grassland north of the runway, looking north, January 2, 2019.

3.2.2 Coastal Brackish Marsh

Coastal brackish marsh is found in low depressions throughout the Action Area and occupies approximately 4.67 acres. This habitat occurs along the coast where freshwater from streams mixes with salt water from the ocean, creating gradients of brackish wetland. This habitat is dominated by pickleweed (*Salicornia pacifica*), salt grass (*Distichlis spicata*), marsh jaumea (*Jaumea carnosa*), and alkali heath (*Frankenia salina*). In areas of lower salinity, common threesquare (*Schoenoplectus pungens*), Mexican rush (*Juncus mexicanus*), and beardless wild rye (*Elymus*

triticoides) become dominant. The areas of coastal brackish marsh near the runway are mowed regularly for maintenance purposes.

Photo 2. Beardless wild rye growing within coastal brackish marsh habitat, looking northwest, May 23, 2018.

Photo 3. Coastal brackish marsh habitat, looking southeast, May 9,2018.

3.2.3 Arroyo Willow Riparian Woodland

Arroyo Willow riparian forest is found primarily along Meadow Creek and Arroyo Grande Creek and occurs on approximately 1.56 acres within the Action Area. Vegetation is dominated by an overstory of Arroyo willow (*Salix lasiolepis*) with dense thickets of blackberry (*Rubus ursinus*) underneath. Canary ivy (*Hedera canariensis*) is abundant in this habitat near the wind cone.

Photo 4. Riparian habitat abutting annual grassland with coastal brackish marsh interspersed, looking west, June 7, 2018.

3.2.4 Ruderal

Ruderal habitat occurs along a three to ten-foot clearing around the tarmac, runway and taxiways within the Action Area, occupying approximately 0.98 acres. Ruderal areas are primarily bare ground with non-native forbs such as telegraph weed (*Heterotheca grandiflora*) and Jersey cudweed (*Pseudognaphalium luteoalbum*). Minimal native herbaceous vegetation, such as strigose lotus (*Acmispon strigosus*), is present. Ruderal habitat within the Action Area is mowed regularly for maintenance purposes.

Photo 5. Ruderal habitat growing next to the tarmac, looking northwest, June 7, 2018.

Photo 6. Ribwort growing in sparsely vegetated ruderal habitat, looking east, May 23, 2018.

3.2.5 Iceplant Mats

The introduced succulent, iceplant (*Carpobrotus edulis*), forms dense mats where it has become established and can invade a variety of habitats. Iceplant mats occupy approximately 0.67 acres within the Action Area. Native vegetation is not present in this habitat and only sparsely occurring introduced species, such as curly dock (*Rumex crispus*), are found within the mats. Iceplant is found growing near the wind cone and the southeastern end of the runway.

3.2.6 Non-native Ornamental Trees

Non-native ornamental trees are found along the fenced border with Oceano Memorial Campground and occupies approximately 0.27 acres of the Action Area. Monterey Cypress (*Hesperocyparis macrocarpa*), Ngaio tree (*Myoporum laetum*), and Sydney golden wattle (*Acacia longifolia*) are the dominant overstory trees with a non-native weedy understory.

3.2.7 Anthropogenic

Buildings and paved surfaces including runways, taxiways, and parking lots comprise approximately 10.51 acres of the Action Area. There is one runway which is 2,325 long and 50 feet wide, and a parallel taxiway which is approximately 20 feet wide. North of the runway is a parking area for vehicles and airplanes, and hangars are located along the northeast edge of the tarmac. A paved parking lot is located outside the Airport entrance.

Figure 4. USDA Soil Survey

Soil Type	Study Area
173 - Mocho fine sandy loam	100%

Legend

Study Area

USDA NRCS Soil Type

0 250 500 Feet

Oceano Airport
Map Center: 120.62245°W 35.10163°N
Oceano, San Luis Obispo County

Data Source: USDA NRCS Soil Survey
Imagery Source: USDA NAIP, 07/14/2018

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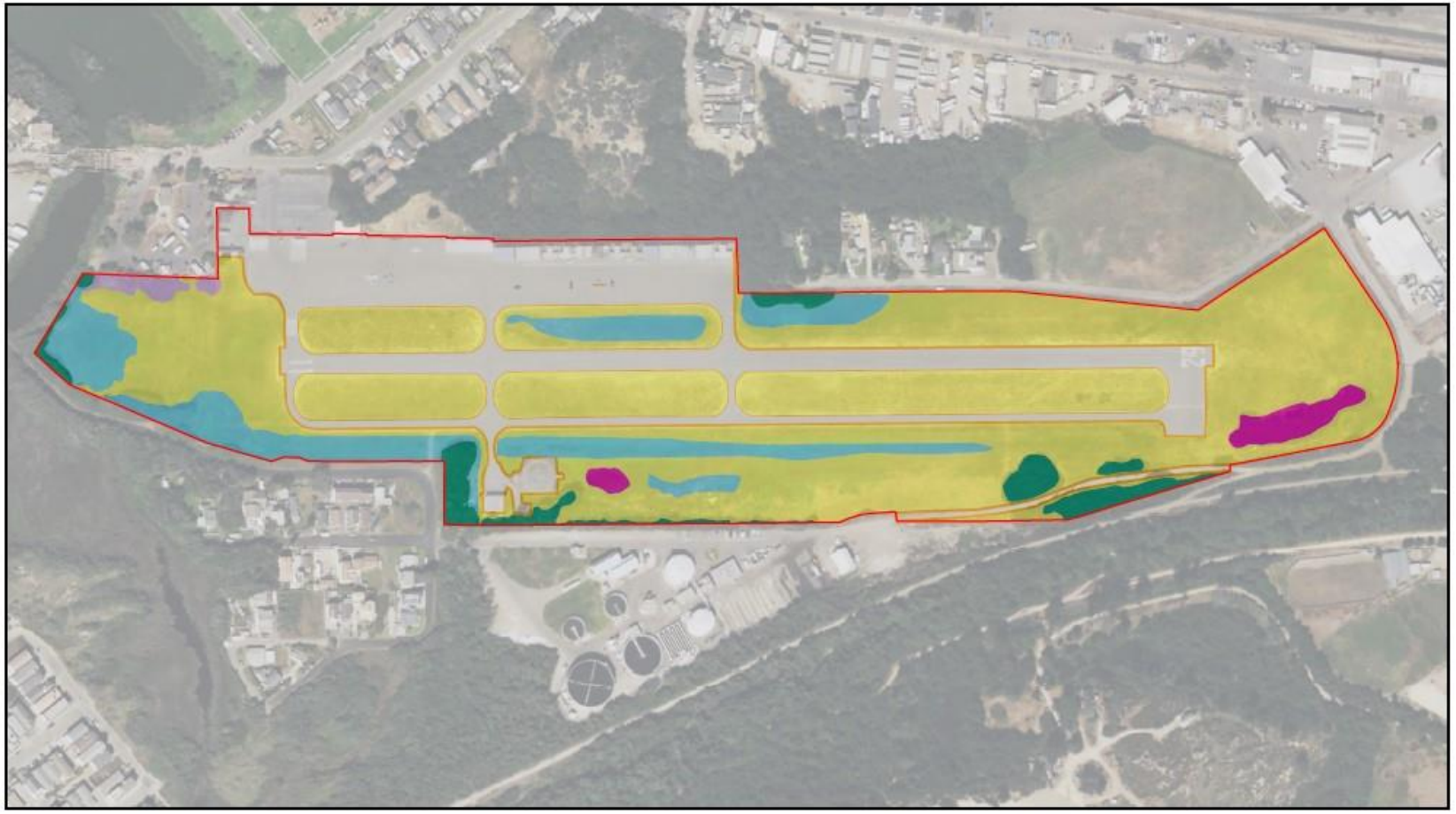
Map Updated:
May 22, 2020 10:33 AM by SAF

Figure 5. Biological Resources



Legend

- Study Area (41.9 acres)
- Annual Grassland (23.4 acres)
- Anthropogenic (10.5 acres)
- Arroyo Willow Riparian Forest (1.6 acres)
- Coastal Brackish Marsh (4.7 acres)
- Ice Plant Mats (0.7 acre)
- Ornamental Non-native Trees (0.3 acre)
- Ruderal (1.0 acre)

N

0 200 400 600 Feet

Oceano Airport
Map Center: 120.62267°W 35.10133°N
Oceano, San Luis Obispo County

Biological Survey Date: 01/02/2019
Imagery Source: USDA NAIP, 07/14/2018

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BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
May 22, 2020 12:06 PM by SAF

4 FEDERALLY LISTED SPECIES

This BA includes detailed information regarding federally listed species that occur or could occur within the Action Area. Information presented here is based on a records review of federally listed species reported from the eight 7.5-minute USGS quadrangles surrounding the Action Area: Pismo Beach, Arroyo Grande NE, Tar Spring Ridge, Oceano, Nipomo, Point Sal, Guadalupe, and Santa Maria. The designated search area encompasses approximately 497 square miles (317,800 acres) of land, and is consistent with typical search area requirements by the USFWS. Records that were reviewed came from the California Natural Diversity Database (CNDDB) (CDFW 2020), the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) (USFWS 2020a) and Critical Habitat Mapper databases, and the California Native Plant Society (CNPS) On-line Inventory of Rare and Endangered Plants of California (CNPS 2020).

Figure 6 depicts the current GIS data for federally listed species and critical habitat mapped in the vicinity of the Action Area by the CNDDB and USFWS (USWFS 2020b).

4.1 Federally Listed Species that May Be Affected by the Project

One federally listed species is known to occur or have the potential to occur in the Action Area and could potentially be affected by the Project (Table 3). A full list of federally-listed species reported from the region that were not detected within or near the Action Area and for which the Project would have "No Effect" for ESA purposes. is provided in Appendix C.

TABLE 3. FEDERALLY LISTED SPECIES WITH POTENTIAL TO OCCUR IN THE ACTION AREA

One species is listed in this table that is governed by the ESA, and which has the potential to occur within the Action Area and could be affected by the Project.

	Common Name	Scientific Name	Federal/State Status Global/State Rank CA State Rank	Nesting/ Breeding Period	Habitat Preference	Potential to Occur
1.	California red-legged frog	*Rana draytonii*	FT/None G2G3/S2S3 SSC	Jan - Jul	Lowlands and foothills in or near sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks for larval development.	Low. There is no suitable breeding habitat present in the Action Area. Transient individuals may occur in upland habitat, but because there are two roads between the Action Area and the closest known occurrence, CRLF are unlikely to occur.

Abbreviations:
FT: Federally Threatened
SSC: CDFW Species of Special Concern

4.2 Species Discussion

A species account for the one species listed above that has the potential to occur within the Action Area is provided below. An Effects Determination is provided in Section 5.0. Avoidance and Minimization Measures are provided in Section 6.0. California Natural Diversity Database (CNDDB) citations are given as the occurrence number for the species under discussion (Figure 6).

California red-legged frog (*Rana draytonii;* CRLF) is listed as a threatened species under the federal ESA; it has no state listing status. CRLF are the largest frog native to the state of California. Adult bodies can reach 5 inches in length. Color can be reddish to gray, and the legs may or may not have characteristic red shading. The characteristic identifier of this species is the dorsolateral fold extending from just behind the eye to the joint of the legs, and positioned halfway between the frog's spine on each side. Once quite common throughout the state, CRLF lived from sea level to elevations of about 5,200 feet. Today, CRLF live in only 30 percent of their former range, primarily in coastal drainages of central California from Marin County south to northern Baja, California, (USFWS 2002). The most significant threat to CRLF is chytrid fungus (*Batrachochytrium dendrobatidis*) (USFWS 2010). An additional major cause of CRLF population decline is the introduction of the bullfrog (*Rana catesbeiana*) which can consume and exhaust CRLF resources (Sousa 2008). Habitat requirements include aquatic breeding sites mixed with riparian and upland dispersal habitats. Along with its aquatic habitat, the CRLF also utilizes upland habitat for seeking food, shelter and as migration corridors between breeding and non- breeding sites. Bulger et al. (2003) found that during dry summer months, CRLF were nearly always within 5 meters of a pond; however during summer rain events and early winter rains, frogs moved up to 130 meters from their ponds, and some frogs even traveled up to 2800 meters to migrate to a different pond. When out of the water the CRLF will shelter under natural or manmade debris and burrow into moist leaf litter or small animal burrows (USFWS 2010).

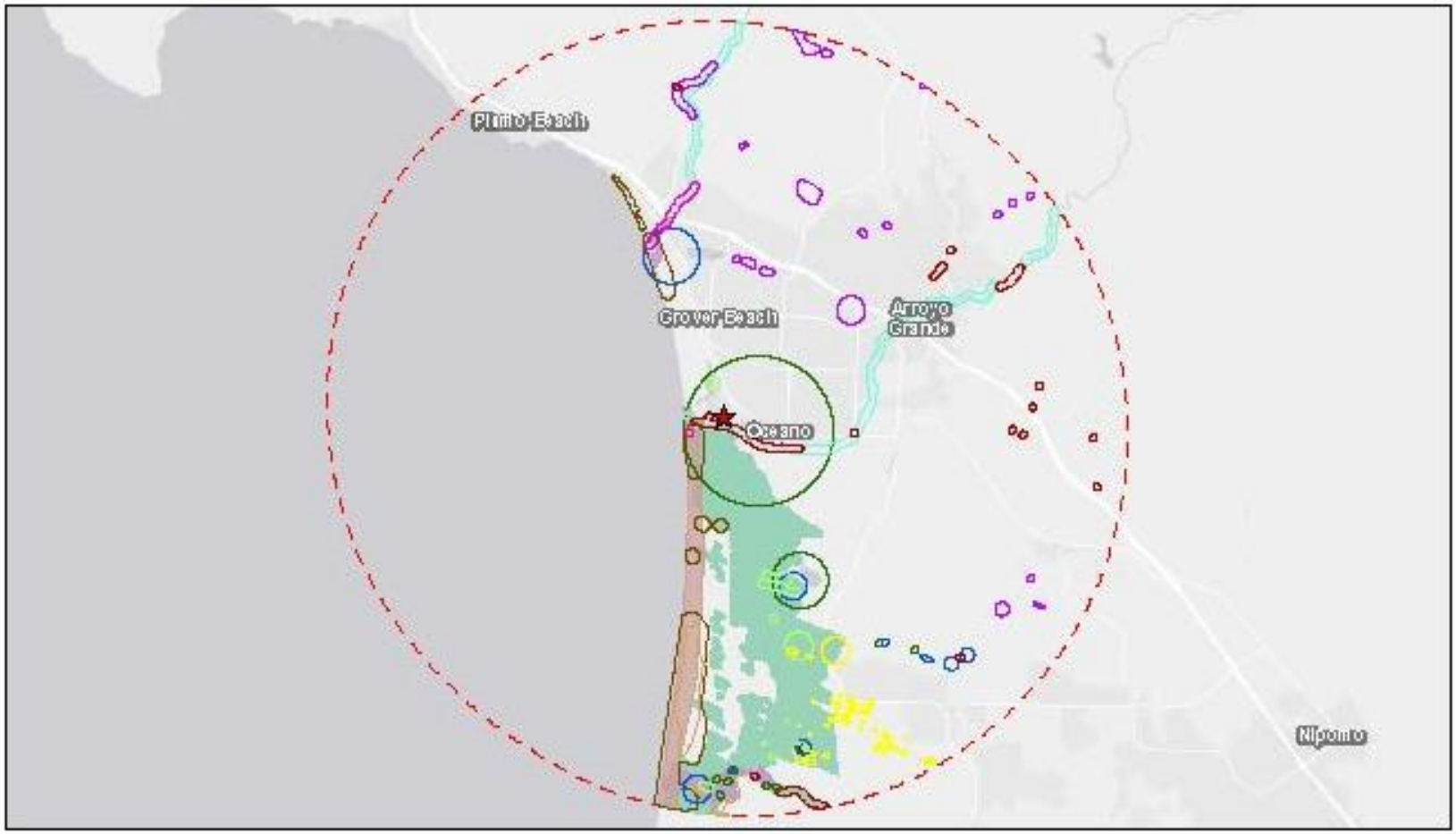
CRLF generally require seasonal pools or streams that hold water until late summer for successful breeding. The breeding season for the CRLF is from January to July with a peak in February (CDFW 2014). Eggs are deposited on emergent vegetation such as rushes, cattails, and other vegetation, with masses containing 2,000 to 5,000 eggs floating on the water surface. Eggs hatch in 6 to 14 days depending on water temperature, with tadpoles developing in 20 to 22 days, and terrestrial frogs developing in 11 to 20 weeks (USFWS 2002). Reproduction begins after 2 to 3 years. CRLF can live for 8 to 10 years, but average lifespan is likely less (USFWS 2002).

Larval CRLF are thought to graze on algae. Adult frogs primarily consume invertebrates, but small vertebrates including Pacific tree frogs (*Hyla regilla*) and California mice (*Peromyscus californicus)* represent a significant portion of their diet. Foraging occurs along shorelines and the water surface but can also occur several meters into dense riparian areas (USFWS 2002). Adult and subadult frogs feed primarily at night. Factors adversely affecting CRLF include urbanization, habitat fragmentation and degradation, impoundments, and predation by centrarchid fish and bullfrogs.

Survey Methods: The entirety of the Action Area was inspected visually during site visits by A&M biologist in May and June 2018 and January 2019. No suitable aquatic habitat was present in the Action Area during any visit. Extensive surveys were not conducted and intensive survey methods (dip netting, seining, snorkeling, etc.) were not undertaken.

Survey Results: California red-legged frogs were not detected within the Action Area during visual inspections of the site by Althouse and Meade, Inc. biologists in May or June 2018 or January 2019. The closest reported occurrence of CRLF to the Action Area is approximately 0.2 miles southeast in Arroyo Grande Creek approximately 0.3 miles upstream from the creek mouth (CNDDB #496) (CDFW 2020).

Figure 6. CNDDB and Critical Habitat



Legend

- Study Area Location
- 5-Mile Radius
- Federally Listed CNDDB Records
- California least tern
- California red-legged frog
- Gambel's water cress
- La Graciosa thistle
- Nipomo Mesa lupine
- Pismo clarkia
- Marsh sandwort
- Steelhead
- Tidewater goby
- Western snowy plover
- USFWS Critical Habitat
  - La Graciosa thistle
  - Tidewater goby
  - Western snowy plover

N

0 1 2 Miles

Oceano Airport
Map Center: 120.62154°W 35.10038°N
Oceano, San Luis Obispo County

CNDDB GIS Data Last Updated: May 2020

ALTHOUSE AND MEADE, INC.

Map Updated:
May 22, 2020 10:35 AM by SAF

5 EFFECTS DETERMINATIONS

The Project is not likely to adversely affect California red-legged frog. CRLF were not observed within the Action Area during site surveys in 2018 and 2019, and there is no suitable aquatic habitat present within the Action Area. CRLF are known to occur in Arroyo Grande Creek, which at its closest point is approximately 200 feet south of the Action Area. Because CRLF are capable of moving up over a mile through upland habitat between breeding areas, there is potential for individuals to move into the Action Area from Arroyo Grande Creek. While there are no known CRLF breeding locations on the opposite side of the Action Area that frogs would move toward, Oceano Lagoon (located to the north) could attract dispersing juvenile CRLF. Oceano Lagoon is not suitable breeding habitat because of the high number of bullfrogs present. There are two roads between Arroyo Grande Creek and the airport perimeter, and it is unlikely but possible that a frog may cross these roads. There is no designated CRLF critical habitat within the Action Area, and critical habitat will not be affected by the Project. Exclusion fences will be put in place to prevent CRLF from moving into the work area. When active construction is in process, a biologist will conduct monitoring of the work area to avoid and minimize potential impacts to CRLF.

5.1 Direct Effects

During construction, the potential exists for CRLF that may present in upland habitat to be harmed by vehicle traffic or ground disturbing activities. Direct effects to CRLF will be avoided by avoidance and minimization measures. Exclusion fences will be installed and the construction site monitored for frogs by qualified biologists (MM-1 through MM-3 in Section 6). Short-term effects could occur during capture and relocation of CRLF if any are found within or adjacent to the work area during construction, but these will be minimized by allowing only USFWS-approved biological monitors to handle frogs (MM-3). No direct effects to California red-legged frog are anticipated to occur from the Project.

5.2 Indirect Effects

Indirect effects to CRLF could occur due to temporary habitat alterations during construction. Placement of the frog exclusion fence during construction of the Project could temporarily impede the movement of CRLF through the site. Indirect effects to CRLF movement will be avoided by daily monitoring of the exclusion fence and relocation of CRLF outside the work area (MM-2 and MM-3 in Section 6).

5.3 Effects Determination

Not Likely to Adversely Affect. This is the appropriate effects determination in light of the measures designed to avoid adverse direct and indirect effects.

6 AVOIDANCE AND MINIMIZATION MEASURES

There is low potential for juvenile CRLF to disperse from nearby Arroyo Grande Creek into upland habitat within the Action Area in the fall. CRLF would have to cross two paved roads in order to enter the Action Area, and therefore are not likely to be present, but potential impacts to CRLF can be avoided by implementing the following Minimization Measures (MM):

MM-1. Qualified biologists will brief all project personnel prior to participating in construction activities. At a minimum, the briefing will include a description of the project components and techniques, a description of the listed species occurring in the project area, and the general and specific measures and restrictions to protect the species during implementation of the project.

MM-2. Prior to start of construction activities, install exclusionary silt fencing to adequately exclude CRLF from the project area during active construction. These fences may be opened during periods of no-construction (e.g. on weekends) to prevent entrapment of CRLF.

MM-3. USFWS-approved biological monitor(s) shall be present on site during all construction activities occurring in potential CRLF habitat. Prior to the start of construction activities in potential CRLF habitat each day, biologist(s) will survey the work sites for CRLF, look under parked vehicles and heavy equipment frequently (especially every morning before work starts). California red-legged frogs captured during surveys or construction activities will be relocated to the nearest suitable habitat outside of the project area.

7 INTERRELATED ACTIONS

No interrelated actions are anticipated to occur near the Action Area that would affect listed species.

8 CUMULATIVE EFFECTS

Cumulative effects include the effects of future state, local, or private actions that are reasonably certain to occur in the Action Area considered in this Biological Assessment. Future federal actions that are unrelated to the Project are not considered in determining the cumulative effects because they are subject to separate consultation requirements pursuant to section 7 of the ESA (U.S. Fish and Wildlife Service and National Marine Fisheries Service 1998).

For this evaluation, the area of consideration or cumulative effects is the Oceano Airport property boundary. Impacts within this area could impact potential CRLF upland habitat, or CRLF movement between breeding areas.

Future improvements to Oceano Airport facilities are planned. These include extension of the ramp for additional hangars on the southwest side of the airfield, and extension of the roadway from Delta Lane. Road extensions and all developments will remain outside federal and state wetlands. Avoidance and minimization measures incorporated into the project would reduce or avoid impacts to CRLF.

9 CONCLUSION

The Airfield Pavement and Facilities Improvement Project at the Oceano County Airport is not likely to affect any federally listed species. California red-legged frog could be present in upland areas within the Action Area outside the breeding season. Mitigation measures incorporated into the Project will avoid impacts to CRLF.

10 REFERENCES

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11 APPENDICES

- **Appendix A. Botanical Inventory**
- **Appendix B. Wildlife Inventory**
- **Appendix C. CNDDB-CNPS Federally Listed Species Reported in the Region**
- **Appendix D. IPac Resource List**

APPENDIX A. BOTANICAL INVENTORY

Botanical surveys conducted in May 2018 and January 2019 identified 68 species, subspecies, and varieties of vascular plant taxa in the Action Area. The list includes 29 species native to California and 39 introduced (naturalized or planted) species. Native plant species account for approximately 43 percent of the Action Area flora; introduced species account for approximately 57 percent. One special status plant species was identified, Monterey cypress (*Hesperocyparis macrocarpa*), however, this species was planted within the Action Area and outside its naturally occurring range. No other special status plant species were identified in the Action Area. Botanical nomenclature used in this document follows the Jepson eFlora (Jepson Flora Project (eds.) 2019).

Common Name	Scientific Name	Special Status	Origin
Ferns - 1 Species			
Giant horsetail	*Equisetum telmateia*	None	Native
Trees - 4 Species			
Arroyo willow	*Salix lasiolepis*	None	Native
Golden wattle	*Acacia longifolia*	None	Introduced
Monterey cypress	*Hesperocyparis macrocarpa*	1B.2	Native
Ngaio tree	*Myoporum laetum*	None	Introduced
Shrubs - 2 Species			
California blackberry	*Rubus ursinus*	None	Native
Coyote brush	*Baccharis pilularis*	None	Native
Forbs - 48 Species			
Alkali heath	*Frankenia salina*	None	Native
Annual yellow sweetclover	*Melilotus indicus*	None	Introduced
Black mustard	*Brassica nigra*	None	Introduced
Blue toadflax	*Nuttallanthus texanus*	None	Native
Brown headed rush	*Juncus phaeocephalus*	None	Native
Bullthistle	*Cirsium vulgare*	None	Introduced
California burclover	*Medicago polymorpha*	None	Introduced
California mugwort	*Artemisia douglasiana*	None	Native
Canary ivy	*Hedera canariensis*	None	Introduced
Celery	*Apium graveolens*	None	Introduced
Cheeseweed	*Malva parviflora*	None	Introduced
Common catchfly	*Silene gallica*	None	Introduced
Common threesquare	*Schoenoplectus pungens*	None	Native
Creek clematis	*Clematis ligusticifolia*	None	Native

Common Name	Scientific Name	Special Status	Origin
Curly dock	*Rumex crispus*	None	Introduced
Cut leaf plantain	*Plantago coronopus*	None	Introduced
False ice plant	*Conicosia pugioniformis*	None	Introduced
Fat-hen	*Atriplex prostrata*	None	Introduced
Fennel	*Foeniculum vulgare*	None	Introduced
Hairy vetch	*Vicia villosa*	None	Introduced
Iceplant	*Carpobrotus edulis*	None	Introduced
Italian thistle	*Carduus pycnocephalus*	None	Introduced
Jersey cudweed	*Pseudognaphalium luteoalbum*	None	Introduced
Jointed charlock	*Raphanus sativus*	None	Introduced
Lupine	*Lupinus bicolor*	None	Native
Marsh jaumea	*Jaumea carnosa*	None	Native
Mexican rush	*Juncus mexicanus*	None	Native
Mustard	*Hirschfeldia incana*	None	Introduced
Neckweed	*Veronica peregrina*	None	Native
Pacific aster	*Symphyotrichum chilense*	None	Native
Pickleweed	*Salicornia pacifica*	None	Native
Poison hemlock	*Conium maculatum*	None	Introduced
Ragweed	*Ambrosia psilostachya*	None	Native
Ribwort	*Plantago lanceolata*	None	Introduced
Salsify	*Tragopogon porrifolius*	None	Introduced
Salt Marsh baccharis	*Baccharis glutinosa*	None	Native
Scarlet pimpernel	*Lysimachia arvensis*	None	Introduced
Seaside heliotrope	*Heliotropium curassavicum var. oculatum*	None	Native
Sheep sorrel	*Rumex acetosella*	None	Introduced
Silver weed cinquefoil	*Potentilla anserina*	None	Native
Sow thistle	*Sonchus oleraceus*	None	Introduced
Spencer primrose	*Camissoniopsis micrantha*	None	Native
Spiny sowthistle	*Sonchus asper*	None	Introduced
Stinging nettle	*Urtica dioica*	None	Native
Strigose lotus	*Acmispon strigosus*	None	Native
Telegraph weed	*Heterotheca grandiflora*	None	Native
Western goldenrod	*Euthamia occidentalis*	None	Native
Wild geranium	*Geranium dissectum*	None	Introduced

Common Name	Scientific Name	Special Status	Origin
Grasses - 13 Species			
Annual beard grass	*Polypogon monspeliensis*	None	Introduced
Beardless wild rye	*Elymus triticoides*	None	Native
Foxtail barley	*Hordeum murinum*	None	Introduced
Giant wild rye	*Elymus condensatus*	None	Native
Italian rye grass	*Festuca perennis*	None	Introduced
Perennial veldt grass	*Ehrharta calycina*	None	Introduced
Rattail sixweeks grass	*Festuca myuros*	None	Introduced
Rescue grass	*Bromus catharticus*	None	Introduced
Ripgut brome	*Bromus diandrus*	None	Introduced
Salt grass	*Distichlis spicata*	None	Native
Slim oat	*Avena barbata*	None	Introduced
Soft chess	*Bromus hordeaceus*	None	Introduced
Wildoats	*Avena fatua*	None	Introduced

APPENDIX B. WILDLIFE INVENTORY

Wildlife species detected in the Action Area during surveys in May and June 2018 and January 2019 include two reptiles, 28 birds, and three mammals. A gopher snake was observed in the grass at the southeast end of the runway, and gopher mounds and ground squirrel burrows were observed throughout the grassland areas. A variety of birds were observed in the riparian habitat on the eastern and southeastern edges of the Action Area and in the non-native ornamental trees in the northwest corner of the Action Area. Small mammal trapping studies were beyond the scope of this report, although several species are likely to occur.

Common Name	Scientific Name	Special Status	Habitat Type
Reptiles – 2 Species			
Pacific Gopher Snake	*Pituophis catenifer catenifer*	None	Woodland, grassland, rural
Coast Range [=Western] Fence Lizard	*Sceloporus occidentalis bocourtii*	None	Wide range; variety of habitats
Birds – 28 Species			
Red-winged Blackbird	*Agelaius phoeniceus*	None	Marshes, fields
Mallard	*Anas platyrhynchos*	None	Lakes, ponds, streams
California Quail	*Callipepla californica*	None	Shrubby habitats
Swainson's Thrush	*Catharus ustulatus*	None	Mixed woodlands
Rock Pigeon	*Columba livia*	None	Urban areas
American Crow	*Corvus brachyrhynchos*	None	Many habitats, esp. urban
Brewer's Blackbird	*Euphagus cyanocephalus*	None	Open habitats
Common Yellowthroat	*Geothlypis trichas*	None	Marshes, streamsides
House Finch	*Haemorhous mexicanus*	None	Riparian, grasslands, chaparral, woodlands, urban
Barn Swallow	*Hirundo rustica*	None	Riparian, grasslands, lakes
Dark-eyed Junco	*Junco hyemalis*	None	Oak woodland
California Gull	*Larus californicus*	Special Animal (nesting colonies)	Beach, urban areas
Western Gull	*Larus occidentalis*	None	Beach, urban areas
Song Sparrow	*Melospiza melodia*	None	Oak, riparian woodland
Brown-headed Cowbird	*Molothrus ater*	None	Grasslands, ranches
Cliff Swallow	*Petrochelidon pyrrhonota*	None	Urban; open areas near water
Black-headed Grosbeak	*Pheucticus melanocephalus*	None	Woodlands

Common Name	Scientific Name	Special Status	Habitat Type
Spotted Towhee	*Pipilo maculatus*	None	Dense brushy areas
Chestnut-backed Chickadee	*Poecile rufescens*	None	Mixed woodlands
Great-tailed Grackle	*Quiscalus mexicanus*	None	Rural and developed areas, agricultural, urban areas
Black Phoebe	*Sayornis nigricans*	None	Near water in natural and urban settings
Allen's hummingbird	*Selasphorus sasin*	None	Riparian, chaparral and woodland
Yellow Warbler	*Setophaga petechia*	SSC (nesting)	Riparian woodlands
Lesser Goldfinch	*Spinus psaltria*	None	Riparian, oak woodlands
American Goldfinch	*Spinus tristis*	None	Weedy fields, woodlands
European Starling	*Sturnus vulgaris*	None	Agricultural, livestock areas
Tree Swallow	*Tachycineta bicolor*	None	Oak, riparian woodlands, open areas near water
Cassin's Kingbird	*Tyrannus vociferans*	None	Open and semi-open areas
Red-winged Blackbird	*Agelaius phoeniceus*	None	Marshes, fields
Mammals – 3 Species			
Brush Rabbit	*Sylvilagus bachmani*	None	Brushy habitats
California Ground Squirrel	*Spermophilus beecheyi*	None	Grasslands
Valley Pocket Gopher	*Thomomys bottae*	None	Variety of habitats

APPENDIX C. CNDDB-CNPS FEDERALLY LISTED SPECIES REPORTED IN THE REGION

	Common and Scientific Name	Fed/State Status Global/State Rank CDFW Rank	Nesting-Breeding Period	Habitat Preference	Potential to Occur	Detected within Action Area?	Effect of Proposed Activity
				Wildlife			
1.	**California Tiger Salamander** *Ambystoma californiense*	Threatened/ Threatened G2G3/S2S3 SSC	Rainy season	Need underground refuges, ground squirrel burrows & vernal pools or other seasonal water for breeding.	None. Suitable habitat is not present in the Action Area and there are no known occurrences within 5 miles.	No.	No Effect.
2.	**Vernal Pool Fairy Shrimp** *Branchinecta lynchi*	Threatened/None G3/S3 Special Animal	Rainy Season	Clear water sandstone depression pools, grassed swale, earth slump, or basalt flow depression pools.	None. Suitable habitat is not present in the Action Area.	No.	No Effect.
3.	**Western Snowy Plover** *Charadrius alexandrinus nivosus*	Threatened/None G3T3/S2S3 SSC	March 15 through August 15	Sandy beaches, salt pond levees, & shorelines of large alkali lakes. Needs friable soils for nesting.	None. Suitable habitat is not present in the Action Area.	No.	No Effect.
4.	**Western Yellow-billed Cuckoo** *Coccyzus americanus occidentalis*	Threatened/Endangered G5T2T3/S1 Special Animal	March 15 through August 15	Nests in riparian jungles of willow, cottonwood, w/ blackberry, nettles, or wild grape understory. Typically found in larger river systems.	None. Suitable habitat is not present in the Action Area.	No.	No Effect.

	Common and Scientific Name	Fed/State Status Global/State Rank CDFW Rank	Nesting-Breeding Period	Habitat Preference	Potential to Occur	Detected within Action Area?	Effect of Proposed Activity
5.	**Tidewater Goby** *Eucyclogobius newberryi*	Endangered/None G3/S3 SSC	n/a	Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	None. Suitable habitat is not present in the Action Area.	No.	No Effect.
6.	**California Condor** *Gymnogyps californianus*	Endangered/Endangered G1/S1 Fully Protected	March 15 through August 15	Wide-ranging over Coast Ranges from Ventura to Big Sur. High Mtn Condor Lookout located in Pozo.	None. Suitable habitat is not present in the Action Area.	No.	No Effect.
7.	**Steelhead - South/Central California Coast DPS** *Oncorhynchus mykiss irideus*	Threatened/None G5T2Q/S2 SSC	February - April	Fed listing refers to runs in coastal basins from Pajaro River south to, but not including, the Santa Maria River.	None. Suitable habitat is not present in the Action Area.	No.	No Effect.
8.	**California Least Tern** *Sternula antillarum browni*	Endangered/Endangered G4T2T3Q/S2 Fully Protected	March 15 through August 15	Nests on sand beaches, alkali flats, bare flat ground from San Francisco Bay to N. Baja California. Colonial breeder.	None. Suitable habitat is not present in the Action Area.	No.	No Effect.
				Plants			
9.	**Marsh Sandwort** *Arenaria paludicola*	Endangered/Endangered G1/S1 1B.1	May - August	Boggy meadows, marshes; <300 m.	None. Suitable habitat not present within Action Area.	No.	No Effect.

	Common and Scientific Name	Fed/State Status Global/State Rank CDFW Rank	Nesting-Breeding Period	Habitat Preference	Potential to Occur	Detected within Action Area?	Effect of Proposed Activity
10.	**San Luis Obispo Fountain Thistle** *Cirsium fontinale* var. *obispoense*	Endangered/Endangered G2T2/S2 1B.2	February – July (August - September)	Serpentine seeps and streams; <300 m. Endemic to SLO County	None. Suitable soils and habitat not present within Action Area.	No.	No Effect.
11.	**La Graciosa Thistle** *Cirsium scariosum* var. *loncholepis*	Endangered/Threatened G5Ti/S1 1B.1	May - August	Marshes, dune wetlands; <50m.	Low. Wetland habitat is present but habitat is highly disturbed.	No.	No Effect.
12.	**Pismo Clarkia** *Clarkia speciosa* ssp. *immaculata*	Endangered/Rare G4T1/S1 1B.1	May - July	Sandy hills near coast; <100 m.	None. Suitable habitat not present within Action Area.	No.	No Effect.
13.	**Gaviota Tarplant** *Deinandra increscens* ssp. *villosa*	Endangered/Endangered G4G5T2/S2 1B.1	May - October	Grassland and coastal scrub ecotone on coastal terraces from Point Sal south to vicinity of Goleta;	None. Suitable habitat not present within Action Area. Action Area outside known species' range.	No.	No Effect.
14.	**Indian Knob Mountain Balm** *Eriodictyon altissimum*	Endangered/Endangered G1/S1 1B.1	March - June	Sandstone ridges, chaparral; 250± m. Endemic to SLO County	None. Suitable habitat not present within Action Area.	No.	No Effect.
15.	**Nipomo Mesa Lupine** *Lupinus nipomensis*	Endangered/Endangered G1/S1 1B.1	December - May	Stabilized sand dunes; <25m. s CCo (Nipomo dunes, sw SLO County)	None. Suitable habitat not present within Action Area.	No.	No Effect.

	Common and Scientific Name	Fed/State Status Global/State Rank CDFW Rank	Nesting-Breeding Period	Habitat Preference	Potential to Occur	Detected within Action Area?	Effect of Proposed Activity
16.	**Gambel's Water Cress** *Nasturtium gambelii*	Endangered/Threatened G1/S1 1B.1	April - October	Marshes, stream banks, lake margins; <1250 m.	Low. Wetland habitat is present but highly disturbed.	No.	No Effect.

APPENDIX D. IPAC RESOURCE LIST

There is a total of 23 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Endangered Species

Mammals

NAME — STATUS

~~Giant Kangaroo Rat *Dipodomys ingens*~~ — ~~Endangered~~
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/6051

Southern Sea Otter *Enhydra lutris nereis* — Threatened
No critical habitat has been designated for this species.
This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.
Species profile: https://ecos.fws.gov/ecp/species/8560

Birds

NAME — STATUS

California Clapper Rail *Rallus longirostris obsoletus* — Endangered
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/4240

California Condor *Gymnogyps californianus* — Endangered
Population: U.S.A. only, except where listed as an experimental population
There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/8193

California Least Tern *Sterna antillarum browni* — Endangered
No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/8104

Least Bell's Vireo *Vireo bellii pusillus* — Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/5945

Marbled Murrelet *Brachyramphus marmoratus* — Threatened
Population: U.S.A. (CA, OR, WA)
There is **final** critical habitat for this species. Your location is outside the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/4467

Birds (cont.)

NAME	STATUS
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Reptiles

NAME	STATUS
Blunt-nosed Leopard Lizard *Gambelia silus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/625	Endangered

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Tidewater Goby *Eucyclogobius newberryi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
Kern Primrose Sphinx Moth *Euproserpinus euterpe* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7881	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
California Jewelflower *Caulanthus californicus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4599	Endangered
Gambel's Watercress *Rorippa gambellii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4201	Endangered
La Graciosa Thistle *Cirsium loncholepis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6547	Endangered
Marsh Sandwort *Arenaria paludicola* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2229	Endangered
Nipomo Mesa Lupine Lupinus nipomensis No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5480	Endangered
Pismo Clarkia *Clarkia speciosa ssp. immaculata* No critical habitat has been designated for this species Species profile: https://ecos.fws.gov/ecp/species/5936	Endangered
Salt Marsh Bird's-beak *Cordylanthus maritimus ssp. maritimus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6447	Endangered
Spreading Navarretia *Navarretia fossalis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1334	Threatened

Critical Habitats

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

Source: IPaC, December 2019

APPENDIX F

Cultural Resources Review

June 2019

MEMORANDUM

DATE: December 17, 2018

TO: RS&H California, Inc.

FROM: E. Timothy Jones, M.A., RPA 15531

SUBJECT: Cultural Resources Review of the Oceano Airport Project, San Luis Obispo County, California; RS&H Project #226-0015-001

Introduction

This memorandum was prepared to document known cultural resources within the proposed Area of Potential Effects (APE) for the Oceano County Airport Project (project) in Oceano, San Luis Obispo County, California. The proposed APE (Attachment A, Figures 1-2) is coterminous with the airport's property boundary and encompasses the maximum horizontal extent of project ground-disturbing activities. Project construction would (1) widen the runway from 50 to 60 feet; (2) widen taxiways from 20 to 25 feet; (3) relocate a segmented circle and wind cone; (4) install taxiway edge lighting; (5) install hold position signage; (6) install new electrical vault and connections; and (7) install a pollution control facility. Indirect impacts to historic properties (e.g., to historic building, structures, or districts) are not anticipated as the undertaking would not introduce new construction that would cause alterations in the character or use of built-environment historic properties. As such, an indirect (i.e., architectural) APE was not established for the undertaking.

Per LSA's Work Order with RS&H California, Inc., dated October 4, 2018, the following tasks were completed to assess the potential for historic properties in the APE: (1) a cultural resources records search was conducted at the Central Coast Information Center (CCIC) to identify cultural resources in the APE and to review previous studies and literature relevant to the APE; and (2) the Sacred Lands File at the Native American Heritage Commission (NAHC) was reviewed to identify known Native American tribal cultural resources at or near the proposed APE. The results of these tasks are described below.

CCIC Records Search Results

The CCIC records search was conducted on November 27, 2018, and included the APE and a 100-foot search radius for cultural resources. The CCIC, an affiliate of the State of California Office of Historic Preservation, is the official State repository of cultural resources records and reports for San Luis Obispo County.

The CCIC identified no cultural resources in the search area.

Four previous cultural resource surveys have been completed of portions of the APE (Table A). The locations of these previous studies are shown on Figure 3 and the results are described below. All of these studies were done to satisfy County of San Luis Obispo California Environmental Quality Act review requirements.

Dills (1990a and 1990b). Archaeologist Charles Dills conducted two pedestrian surveys within the southeast portion of the APE in 1990 for a proposed recreational vehicle storage lot and park. No cultural resources were identified as a result of Dills' surveys, and no project-specific recommendations were provided.

Gibson (1994a and 1994b). Archaeologist Robert Gibson conducted two cultural resource pedestrian surveys on Oceano airport property in 1994. One survey was done of eight acres at the southwest quadrant of the Oceano Airport for a proposed aircraft hangar storage construction (1994a); the other survey was done of two acres at the northeast corner of the airport for an undefined "future project" (1994b).

Gibson identified precontact and historic-period archaeological materials during his survey of the eight acres proposed for aircraft hangar construction, including Pismo and littleneck clamshell fragments, asphalt chunks, and glass fragments. Gibson speculated that these materials originated off-site from the Pismo/Oceano sewer trench construction done in 1982. The spoils from that sewer trench excavation were allegedly brought to the airport property via truck and spread "over large areas." As such, the archaeological materials identified by Gibson do not represent a primary deposit that would be eligible for listing in the National Register of Historic Places (NRHP). To prevent further dispersal of archaeological materials, Gibson recommended that all spoils from the proposed construction remain on site.

Gibson identified recent cultural materials during his survey of the two acres at the northeast corner of the airport, including asphalt, glass, and recent Pismo clam shell. These materials are not eligible for listing in the NRHP.

Table A: Previous Cultural Resource Investigations of APE

Author (Date)	*Title* (CCIC File No.)	Summary of Findings
Dills (1990a)	*Archaeological Potential of Pismo Coast Village RV Lot in Oceano* (SL-1417)	No resources identified in APE
Dills (1990b)	*Archaeological Potential of Proposed RV Park at W End of Silver Spur, Oceano* (SL-1977)	No resources identified in APE
Gibson (1994a)	*Results of a Phase One Archaeological Surface Survey for a Proposed Aircraft Storage Hangar Construction Project, Oceano County Airport, Oceano CA* (SL-2727)	Redeposited precontact and historic-period materials identified in APE
Gibson (1994b)	*Results of Phase One Archaeological Surface Survey for a Two Acre Area at the Oceano County Airport, Oceano, CA* (SL-2728)	Recent cultural materials identified in APE

NAHC Search Results

The NAHC maintains the Sacred Lands File and is the official State repository of Native American sacred site location records in California. LSA requested a review of the NAHC's Sacred Lands File,

and in a letter dated November 26, 2018, Katy Sanchez of the NAHC responded that the results of the search were positive (Attachment B). Ms. Sanchez provided no information on the location or nature of the sacred land(s) identified by the search, but requested that Chief Mark Vigil of the San Luis Obispo County Chumash Council be contacted for more information. Chief Vigil's contact information is 1030 Ritchie Road, Grover Beach, CA 93433, and his telephone number is 805-481-2461.

Summary

Redeposited archaeological material has been identified within the APE (Gibson 1994a). These materials do not appear to be eligible for listing in the NRHP and, therefore, do not constitute a historic property (36 CFR 800.16(l)(1)).

A review of the NAHC Sacred Lands File indicates the APE is "positive" for Native American cultural resources, and the NAHC recommended consultation with the San Luis Obispo County Chumash Council for more information.

References Cited

Dills, Charles E.

1990a *Archaeological Potential of Pismo Coast Village RV Lot in Oceano*. Published by Charles E. Dills, San Luis Obispo, California

1990b *Archaeological Potential of Proposed RV Park at W End of Silver Spur, Oceano.* Published by Charles E. Dills, San Luis Obispo, California

Gibson, Robert O.

1994a *Results of a Phase One Archaeological Surface Survey for a Proposed Aircraft Storage Hangar Construction Project, Oceano County Airport, Oceano CA.* Published by Robert O. Gibson, Paso Robles, California.

1994b *Results of Phase One Archaeological Surface Survey for a Two Acre Area at the Oceano County Airport, Oceano, CA.* Published by Robert O. Gibson, Paso Robles, California.

ATTACHMENT A: FIGURES

LSA

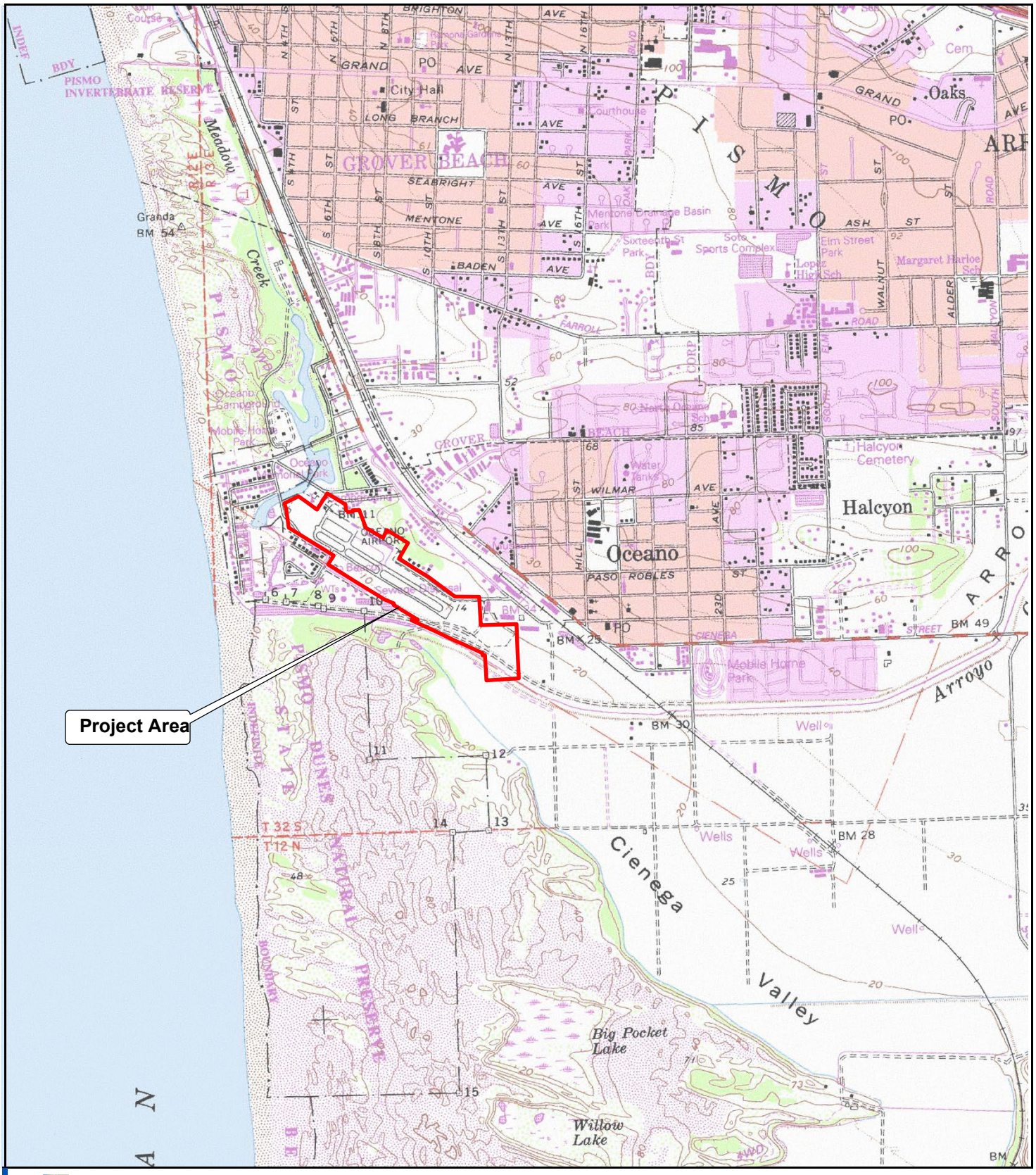
FIGURE 1

0 1000 2000
FEET

SOURCE: National Geographic (c) 2018; Esri World Street Map (c) 2018.

Oceano County Airport Project
Oceano, San Luis Obispo County, California

Regional Location and Project Area



LEGEND

Project Area

FIGURE 2

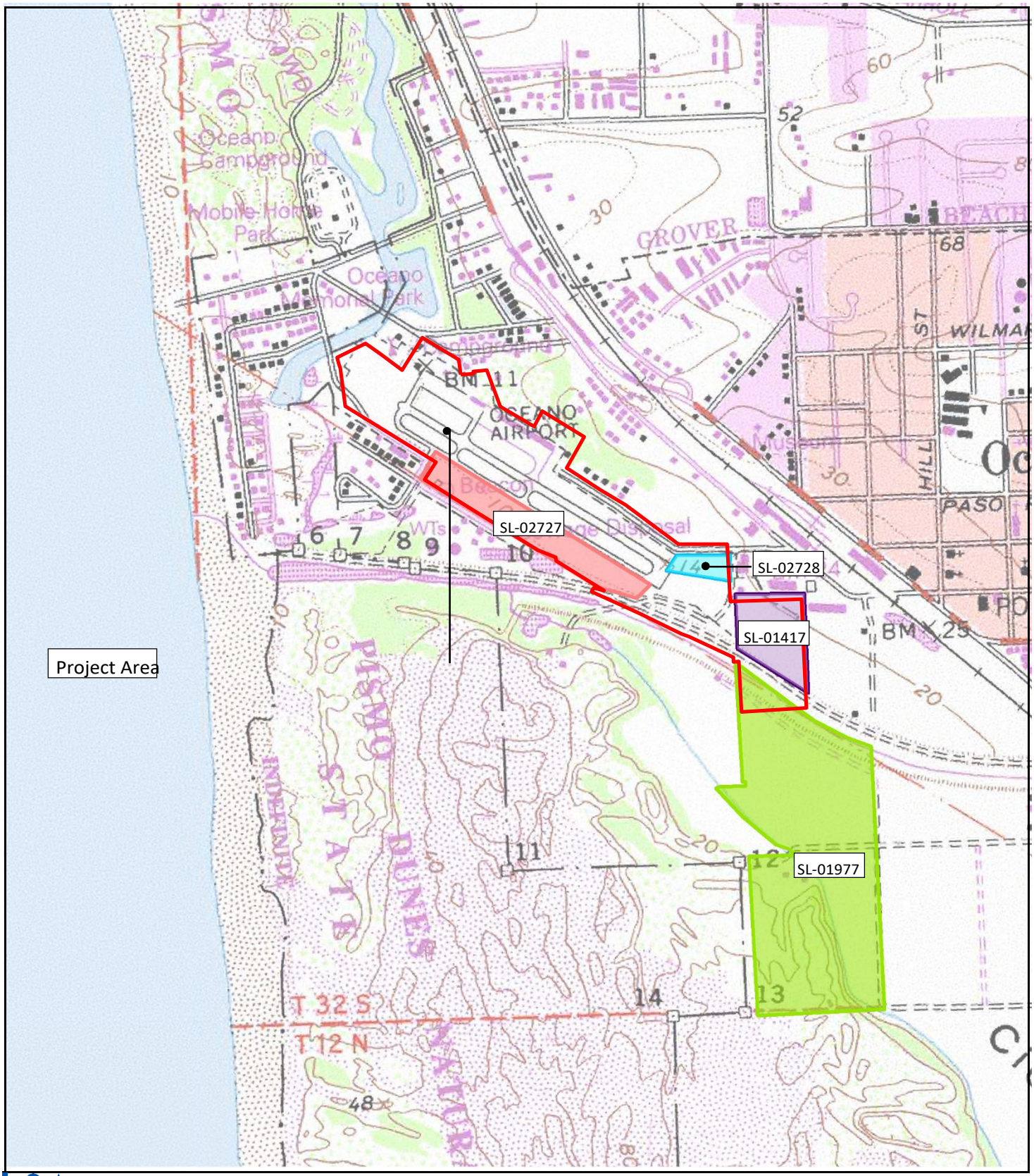
0 1000 2000

FEET

SOURCE: 7.5-minute Quad: *Oceano, Calif.* (1994),

Oceano County Airport Project
Oceano, San Luis Obispo County, California

Project Area



LSA

FIGURE 3

LEGEND

Project Area

Previous Study Areas

SL-01417

SL-01977

SL-02727

SL-02728

0 500 1000

FEET

Oceano County Airport Project
Oceano, San Luis Obispo County, California

SOURCE: 7.5-minute Quad: *Oceano, Calif.* (1994); CCIC (11/2018).

Previous Cultural Resource Studies

ATTACHMENT B: NATIVE AMERICAN HERITAGE COMMISSION SACRED LANDS FILE SEARCH RESULTS

STATE OF CALIFORNIA Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
45g0 Harbor Blvd., Suite 100 West Sacramento, CA 95691 Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: httn //www nahc ca.gov
Twitter: @CA NAHC

November 26, 2018

Tim Jones
LSA

VIA EmaiJ to: tim.jones@lsa.net

RE: Oceano County Airport Project, San Luis Obispo County.

Dear <P Mr. Jones:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive. Please contact the San Luis Obispo County Chumash Council, Chief Mark Vigil, 1030 Ritchie Road, Grover Beach, CA 93433, telephone number (805) 481-2461 for more information. Other sources of cultural resources, on the attached list, should also be contacted for information regarding known and recorded sites.

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

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: ca.gov.

Sincerely,

Katy

KATY SANCHEZ
Associate Environmental Planner

Attachment

Native American Heritage Commission
Native American Contacts Liet
11/21/2018

Barbareno/Ventureno Bond of Mission Indians
Julie Lynn Tumamait-Stenslie, Chair

365 North Poli Ave Chumash
Cjai •CA 93023
jtumamait@hotmail.com
(805) 646-6214

Barbareno/Ventureno Band of Mission Indians
Eleanor Arrellanes

P.O. Box 5687 Chumash
Ventura MCA 93005
(805) 701-3246

Barbareno/Ventureno Band of Mission Indians
Raudel Joe Banuelos, Jr.

331 Mira Flores Court Chumash
Camari!lo CA 93012
(805) 427-0015

Coastal Band of the Chumash Nation
Mia Lopez
24 S. Voluntario Street Chumash
Santa Barbara •CA 93101
mialopez2424@gmail.com
(805) 324-0135

Northern Chumash Tribal Council
Fred Collins, Chairman
P.O. Box 6533 Chumash
Los Osos MCA 03412
fcollins@northernchumash.org
(805) 801-0347 (Cell)

Northern Chumash Tribal Council
Violet Cavanaugh

P.O. Box 6533 Chumash
Los Osos •CA 93412
760-549-3532

Santa Ynez Band of Chuma6h Indians
Kenneth Kahn, Chairperson

P.O. Box 517 Chumash
Santa Ynez MCA 93460
kkahn@santaynezchumash.org
(805) 688-7997
(805) 686-9578 Fax

yak tityu tityu - Northern Chumash Tribe
Mona Olivas Tucker, Chairwoman

660 Camino Del Rey Chumash
Arroyo Grande CA 93420
olivas.mona@gmail.com
(805) 489-1052 Home
(805) 748-2121 Cell

Thle list is current as of the date of this document and Is based on the information available to the Commission on the date it

| was produced.

Distribution of this list does not relieve any person of statutory responsibility as deflned in Section 70d0.5 of the Health and Safety Code, Section 5097.94 of the Public Reeourcee Code, or Section 5007.BB of the Public Resources Code.

This list is only applicable for contacting local Native American Tribes for the proposed: Oceano County Airport Project, San Lui8 Obispo County.

Bosworth, Makenzie

From: Full, David
Sent: Wednesday, April 14, 2021 10:59 AM
To: Bosworth, Makenzie
Subject: FW: Cultural Resource Report - Oceano Airport Improvements

Forwarded email for inclusion in Appendix.

David Full, AICP
Vice President, Aviation Environmental Service Group

From: Doucette, Richard (FAA)
Sent: Monday, April 12, 2021 09:50 AM
To: Full, David
Cc: Craig Piper
Subject: FW: Cultural Resource Report - Oceano Airport Improvements

See the email response below from Fred Collins of the Northern Chumash tribe, regarding the Oceano airfield improvements.

Richard P. Doucette
Federal Aviation Administration
New England Region, Airports Division

From: Fred Collins
Sent: Friday, April 09, 2021 12:53 PM
To: Doucette, Richard (FAA)
Subject: RE: Cultural Resource Report - Oceano Airport Improvements

Hello Richard,

NCTC does not support the expansion of the Oceano County Airport, the noise, air, potential disasters, and visual pollutions do not fit with the future of this area.

Fred Collins
NCTC
Chair

From: Doucette, Richard (FAA) **Sent:** Monday, March 15, 2021 8:30 AM

To: F Collins
Subject: Cultural Resource Report - Oceano Airport Improvements

Dear Mr. Collins:

Oceano County Airport is proposing improvements to the airfield, and these improvements are being evaluated by the Federal Aviation Administration. Mr. Doug Pomeroy of the FAA contacted a number of Native American tribes in February of 2020, to inform them and gather input on any concerns they might have. This area has been heavily disturbed as part of previous Airport-related development. Attached is a graphic that shows the proposed projects:

- widen the Runway from 50 to 60 feet,
- widen Taxiways from 20 to 25 feet,
- relocate segmented circle and wind cone,
- install taxiway edge lighting,
- install hold position signage,
- install a new electrical vault and electrical connections,
- install a pollution control facility (wash rack)

Doug had conversations with some tribes in March 2020, and indicated he would follow-up with the Cultural Resources Report. Doug has recently retired, and it is unclear if the material indicated had been forwarded to you. Please see the attached Cultural Resources Report for the Oceano Airport proposed improvements. If you have any questions or comments in this matter, please do not hesitate to contact me or Camille Garibaldi.

Richard P. Doucette
Environmental Protection Specialist
Federal Aviation Administration

State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Armando Quintero, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

April 13, 2021

In Reply Refer to FAA_2021_0315_001

VIA ELECTRONIC MAIL

Richard P. Doucette, Environmental Protection Specialist
Western-Pacific Region, Airports Division
San Francisco Airports District Office
Federal Aviation Administration
1000 Marina Blvd., Suite 220
Brisbane, CA 94005-1835

RE: Proposed Airfield Pavement and Facilities Improvements at Oceano County Airport, Oceano, California (your letter of March 12, 2021 and emails of April 7 and 11, 2021)

Dear Mr. Doucette:

The Federal Aviation Administration (FAA) is initiating consultation with the State Historic Preservation Officer (SHPO) in accordance with Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. § 306108), as amended, and its implementing regulation found at 36 CFR Part 800.

The FAA is reviewing the Oceano County Airport's (Airport) proposal to improve airfield pavement and facilities at the Airport. The proposed undertaking and the area of potential effects (APE) are described adequately in the FAA's submission.

As documentation for your determination, you provided a report prepared by E. Timothy Jones of LSA and dated December 17, 2018. A records review was conducted at the Central Coast Information Center at UC-Santa Barbara on November 27, 2018 which identified that: (1) there were no cultural resources located within the APE; and (2) that four cultural resources surveys had been conducted previously of portions of the APE. Based on the results of the records review, the FAA concluded that a pedestrian survey of the APE was not needed.

After contacting the Native American Heritage Commission (NAHC), on November 26, 2018, the FAA contacted the eight tribes or tribal groups, identified by NAHC, with request for comment letters. The FAA received the following responses to those letters:

1) Three tribes requested copies of the cultural resources report, which were provided to them by the FAA;
2) Patti Dunton, Tribal Administrator, Salinan Tribe of Monterey-San Luis Obispo Counties, requested that a Native American monitor be present during ground disturbing activities associated with the proposed undertaking: and
3) Fred Collins, Chair, Northern Chumash Tribal Council, said that the tribe does not support the proposed undertaking because the resulting potential disasters, and noise, air, and visual pollution do not fit with the future of this area.

The Airport has agreed with the request for Native American monitors and monitoring will be incorporated into the construction plans.

The FAA requested that the SHPO concur with your identification of the APE and determination of No Historic Properties Affected. Having reviewed the information submitted with your letter, the SHPO offers the following comments:

- The SHPO has no objections to your identification and delineation of the APE, pursuant to 36 CFR Parts 800.4(a)(1) and 800.16(d);
- The SHPO believes that a finding of No Historic Properties Affected is appropriate for this undertaking and concurs with that finding.

Be advised that under certain circumstances, such as an unanticipated discovery or a change in project description, you may have additional future responsibilities for this undertaking under 36 CFR Part 800. Should you encounter cultural artifacts during ground disturbing activities, please halt all work until a qualified archaeologist can be consulted on the nature and significance of such artifacts.

If you have any questions or comments, please contact Tristan Tozer of my staff at (916) 445-7027 or by email at Tristan.Tozer@parks.ca.gov.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

APPENDIX G

Delineation of Potentially Jurisdictional Wetlands and Waters

Delineation of Potentially Jurisdictional Wetlands and Waters

for

RS&H Oceano County Airport

Oceano, San Luis Obispo

Prepared for

RS&H
William Willkie, Western Region Environmental Service Group Leader
369 Pine Street, Suite 610
San Francisco, CA 94104

by

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January 2019

877.02

Table of Contents

List of Tables

List of Charts

List of Figures

List of Exhibits

List of Appendices

Cover Page: Wetland at north end of airport. January 2019.

Definitions of Wetland Indicators

Wetland Plant Indicator Status Ratings in Order of Wetland Affinity		
OBL	Obligate	Hydrophyte, almost always occur in wetland. Estimated probability >99 percent to occur in wetlands under natural conditions.
FACW	Facultative Wetland	Hydrophyte, usually occur in wetland, but may occur in non-wetland. Estimated probability >67% to 99% to occur in wetlands under natural conditions.
FAC	Facultative	Equally likely to occur in wetland and non-wetland. Estimated probability 33% to 67% to occur in wetlands under natural conditions.
FACU	Facultative Upland	Non-hydrophyte, usually occurs in non-wetland, but may occur in wetland. Estimated probability 1% to <33% to occur in wetlands under natural conditions.
UPL	Upland	Almost never occur in wetland. Estimated probability <1% to occur in wetlands under natural conditions.
NL	No Listed	Species not included in federal list of wetland indicator plants. Assumed upland for purposes of wetland analysis.

1 INTRODUCTION

1.1 Purpose

This report provides a delineation of potential jurisdictional wetland and non-wetland waters according to federal standards on the Oceano County Airport (Study Area), located in the census-designated place of Oceano of San Luis Obispo County, California. RS&H requested this delineation from Althouse and Meade, Inc. Its purpose is to describe potentially jurisdictional waters and wetlands according to the Clean Water Act (CWA) Section 404, the Porter-Cologne Water Quality Act (State Water Code), Fish and Game Code Section 1600, and California Coastal Act, Public Resources Code Section 30121. This document presents a comprehensive inventory and mapping effort of wetland and non-wetland aquatic resources within the Study Area and provides information for owners, the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW), and the Lead Agency in decisions regarding activities in the Study Area. Section 2.0 provides more detail on the regulatory framework and scope of this jurisdictional delineation.

1.2 Study Area Location and Extent

Oceano County Airport is along the southwestern edge of Oceano, less than a quarter mile from Pacific Highway 1. Approximate coordinates for the center of the Study Area are 35.101056° N, 120.623839° W (WGS84) in the Oceano United State Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 1). Elevation ranges from approximately seven to 14 feet above mean sea level. The proposed project is located in the Coastal Zone and the Oceano LCP area. The Study Area for this delineation report is 42.0 acres.

1.3 Current Conditions

The Study Area is on Oceano County Airport, which is bordered by Oceano Memorial Campground and Oceano Lagoon to the north, a water treatment plant and Arroyo Grande Creek to the south, Meadow Creek to the southwest, and residential and light industrial development to the east (Figure 2). The Airport has one paved runway which is 2,325 long and 50 feet wide, and a parallel taxiway to the southwest which is approximately 20 feet wide. Parallel to the runway on the northeast is a wide area of tarmac for parking vehicles and airplanes, with a row of hangars along the northeast edge of the tarmac. A paved vehicle parking lot is located outside the entrance to the Airport, at the north end of the Study Area.

1.3.1 Vegetation and Habitats

Historically, the airport was an estuarine environment formed by the confluence of at least two major drainages, Meadow Creek and Arroyo Grande Creek, with many wetlands and lagoons, likely herbaceous and willow woodland (Figure 3). In the 1950's, the runway and infrastructure were created through vegetation removal and fill. Therefore, areas that have not been filled historically, still support coastal brackish marsh habitat due to the high water table typical of the historical estuarine environments.

Annual grassland habitat is found commonly throughout the Study Area and is comprised of non-native grasses such as ripgut brome (*Bromus diandrus*), and Bermuda grass (*Cynodon dactylon*), as well as non-native forbs such as wild radish (*Raphanus sativus*), summer mustard (*Hirschfeldia incana*), and hairy vetch (*Vicia villosa*). Arroyo willow (*Salix lasiolepis*) riparian habitat is present along Arroyo Grande Creek to the south, Meadow Creek and Oceano Lagoon to the northwest, and north of the Study Area between residential development and airport property. This woodland habitat encroaches into the Study Area and is occasionally maintained or removed by the airport.

1.3.2 Hydrology

The USGS and United States Department of Agriculture (USDA)-Natural Resource Conservation Service (NRCS) developed nationally consistent watershed boundaries which range from a 2-digit code as the first level of classification (Hydrologic Unit Code [HUC] 2) to a 12-digit code for the most detailed watershed delineation (HUC12). The Study Area is in the Lower Arroyo Grande Creek watershed and the Meadow Creek-Frontal Pacific Ocean (HUC12) (Figure 5). It is located just east of the confluence of the two creeks, with the northwest corner of the Study Area directly abutting Meadow Creek and the southeastern border along Arroyo Grande Creek (Figure 4). The two creeks converge approximately a quarter mile offsite on Pismo Dunes Natural Preserve and then flow to the Pacific Ocean through Pismo State Beach. The National Wetlands Inventory (NWI) reports two types of wetlands within the Study Area, Freshwater Emergent Wetland and Freshwater Forested/Shrub Wetland (Figure 6). These areas are supported by a high water table from multiple freshwater watersheds and the Pacific Ocean. Figure 7 shows that the Study Area is dominated by a Zone AE floodplain map unit in the National Flood Hazard Layer with a base elevation of between 13 and 19 feet (FEMA 2017).

1.3.3 Soils

One individual soil map unit from the Natural Resource Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO) overlap the Study Area: Mocho fine sandy loam (Soil Survey Staff 2017). This soil series is typically very deep, well drained, and present on gently sloping alluvial fans derived from sandstone and shale.

A custom soil report for the Study Area can be found as Appendix A.

1.3.4 Climate

The Climate Analysis for Wetlands Tables (WETS) for San Luis Obispo Poly (closest WETS station, 14 miles north of Project site) indicates that average 30-year rainfall is 24.48 inches. WETS also provides the average monthly range of precipitation. This range minimum is calculated by determining the total precipitation that the month is 70 percent likely to receive more than given the rainfall history between 1971 and 2000. The range maximum uses 30 percent for the probability analysis. This results in a range of precipitation for each month where the total precipitation is likely to fall in any given year. The 2017-2018[1] rainfall year was below average totaling 14.34 inches (NOAA 2018). Rainfall was above the WETS range in March 2018 and

[1] Rainfall years range from July to June.

November 2018. Most months' rainfall was below or at the low end of the WETS range (Chart 1). Site visits were completed in May 2018 and January 2019.

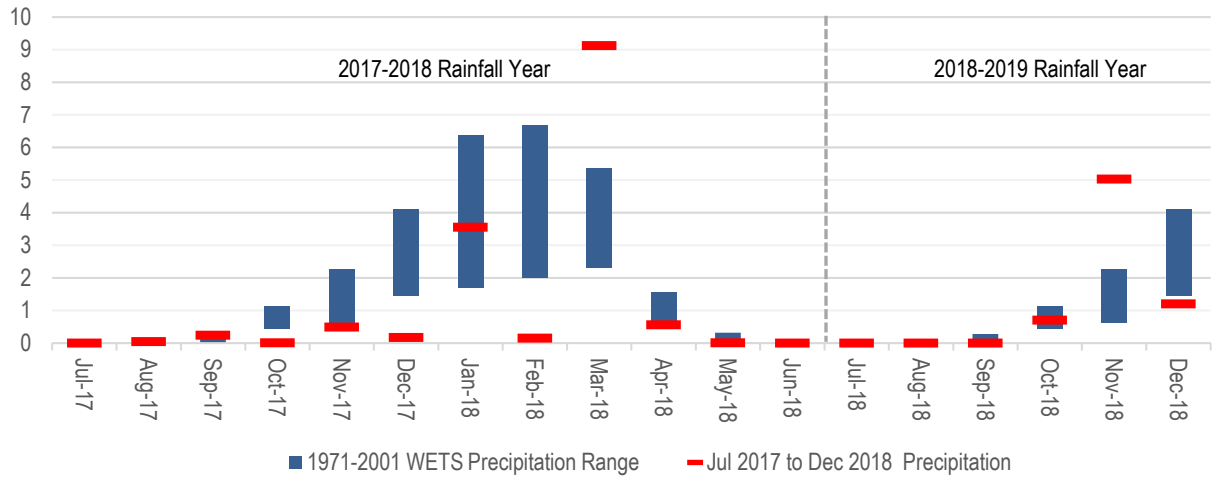


CHART 1. WETS PRECIPITATION AND JULY 2017 – DECEMBER 2018 RAINFALL (INCHES)

WETS average range of precipitation from a probability analysis of 1971 to 2000 data compared to 2017 to 2018 precipitation (2017-2018 rainfall year and a portion of 2018-2019 rainfall year). Data were retrieved from NOAA Regional Climate Centers in San Luis Obispo, CA (NOAA 2018).

2 REGULATORY FRAMEWORK

2.1 United States Army Corps of Engineers

Section 404 of the CWA authorizes the USACE to regulate activities that discharge dredged or fill material to wetlands and other waters of the United States. The term "waters of the United States" encompasses resources described by the Environmental Protection Agency (EPA) and the Corps regulations, 40 CFR (Code of Federal Regulations) § 230.3(s) and 33 CFR § 328.3(a). The geographic limits of relevant federal jurisdiction for non-tidal waters of the U.S. are defined at 33 CFR § 328.4(c).

The *Corps of Engineers Wetlands Delineation Manual* (hereafter "1987 Manual"; Environmental Laboratory 1987) defines wetlands (EPA regulations at 40 CFR § 230.3(t); USACE regulations at 33 CFR § 328.3(b)). Wetlands are considered "special aquatic sites" under the USACE definition. Special aquatic sites are afforded protection under the CWA (Sections 401 and 404). The 1987 Manual and various regional supplements describe the criteria that must be met to determine the presence of a wetland, the methods used to determine whether they are met, and the geographic extent of wetland areas identified in the field.

The USACE takes jurisdiction over wetlands that exhibit hydrology, hydric soil, and hydrophytic vegetation (three parameters) by the standard set forth in the Arid West Regional Supplement. These areas must also exhibit a significant nexus to a Traditionally Navigable Water (TNW). For non-wetland water features, USACE jurisdiction is limited to the Ordinary High Water Mark (OHWM).

2.2 Regional Water Quality Control Board

Recent July 2017 guidance from the RWQCB indicates that they have adopted the USACE policy of a "three-parameter wetland" (SWRCB 2017). They will also take jurisdiction over a non-wetland water to the OHWM. In contrast to the USACE, however, the RWQCB will take jurisdiction over isolated wetland features that do not have significant nexus to a TNW.

2.3 California Department of Fish and Wildlife

CDFW found the USFWS wetland definition and classification system based on the 1979 Cowardin definition to be the most biologically valid (Cowardin et al. 1979). In general, CDFW will take jurisdiction over drainage or lake features with a bed and bank and will limit their jurisdiction to the top of bank and may include adjacent wetland or riparian areas on a case by case basis.

2.4 California Coastal Commission (CCC)

Wetlands found in the Coastal Zone are regulated under the California Coastal Act of 1976 (CCA) and are within the stricter jurisdiction of the California Coastal Commission. Unlike the USACE and RWQCB definitions requiring hydrology, hydric soils, and hydrophytic vegetation, the California Code of Regulations (14 CCR 13577) states that the California Coastal Commission (CCC) requires only one parameter:

> *Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate…*

The CCA includes requirements related to coastal zone management and wetlands protection, including coastal development permits, and established the California Coastal Commission (CCC) as the coastal regulatory and management agency. The CCC, which enforces the Coastal Act, defines coastal wetlands in its regulations as:

> *…land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentration of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some during each year and their location within, or adjacent to vegetated wetland or deepwater habitats.*

The CCC's map requirement and boundary determinations criteria are provided in 14 CCR (California Code of Regulation) §13577. In addition to wetlands, the CCC will take jurisdiction over tidelands, submerged lands, public trust lands, beaches, coastal bluffs, and estuaries. Estuary jurisdictional boundaries measured 300 feet landward from the mean high tide line. The tide lines are defined similarly to the USACE tidal data analysis.

3 DELINEATION METHODS

3.1 Overview of Sampling Methodology

Jurisdictional wetlands and other waters were identified using methods and guidelines described in the 1987 Manual, the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (hereafter "2008 Supplement"; USACE 2008b), and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008a). Site visits were made in the spring of 2018 and winter of 2019. Table 1 summarizes dates of field work and personnel attending each site visit.

TABLE 1. FIELD WORK LOG

Wetland delineation survey dates, actions taken, and field personnel are provided.

Survey Date	Activities	Personnel
May 9, 2018	Wetland delineation sample sites	Andy McCrory Jacqueline Tilligkeit
January 2, 2019	Wetland assessment	Kyle Nessen Jacqueline Tilligkeit

3.1.1 Wetlands

Soil pits were dug by hand at nine sampling sites based on the presence of hydrophytic vegetation, wetland hydrology, or low relief indicated potential wetland. For each wetland site an adjacent upland observational pit was dug to compare upland soil and vegetation features. Locations of all five sampling sites were recorded on the Jurisdictional Delineation Map (Exhibit A) and USACE Arid West Region Wetland Determination Data Forms (Exhibit B; updated sheet from 2010). Photos of each site are included in Section 8.0.

3.1.1.1 Wetland Hydrology

The presence or absence of wetland hydrology field indicators was assessed following methodology presented in the 1987 Manual and the 2008 Supplement. Wetland indicators included, but were not limited to, high water table, site topography, drift lines, drainage patterns, sediment deposits, inundation, observation of wet conditions during the growing season, and saturation of soils.

3.1.1.2 Wetland Soils

Soils were examined according to methodology presented in the 2008 Arid West Supplement and 1987 Manual. Hydric soil indicators were recognized by soil characteristics from the USDA-NRCS publication, *Field Indicators of Hydric Soils in the United States* (version 7.0; USDA-NRCS 2010) and the National Technical Committee for Hydric Soils (NTCHS) definition of hydric soils.

3.1.1.3 Wetland Vegetation

Vegetation in each stratum was identified to species and recorded. The indicator status of plants was confirmed by referring to the *National Wetland Plant List* (Lichvar *et al.* 2016). Species dominance was noted for each stratum using the "50/20 Rule." Dominance test and prevalence index was calculated for all samples.

3.1.1.4 Wetland Connectivity/Adjacency

Connectivity to Traditional Navigable Waters and their tributaries is established via field work where accessible, as well through analysis of aerial photographs, United States Geographic Service (USGS) topographic map, USGS National Hydrography Dataset, and site-specific topographic survey.

3.1.2 Non-Wetland Waters

Drainages were identified onsite as features that display evidence of hydrology but do not contain vegetation suggestive of wetlands. Evidence of OHWM was used to determine extent of Corps jurisdiction over these non-wetland waters of the U.S. The OHWM Manual (USACE 2010) lists and describes indicators associated with areas that become flooded or ponded, but are not dominated by wetland vegetation and the duration of flooding, ponding, and/or near-surface soil saturation (less than or equal to 12 inches) is not sufficient to cause hydric soils to form or wetland hydrology conditions to occur. Ordinary High Water Mark was identified and noted according to guidance provided in the OHWM Manual.

3.1.3 Waters Connectivity/Adjacency

Connectivity to Traditional Navigable Waters and their tributaries is established via field work where accessible, as well through analysis of aerial photographs, United States Geographic Service (USGS) topographic map, USGS National Hydrography Dataset, and site-specific topographic survey. This connectivity determines whether the feature has "significant nexus" (i.e. it significantly affects the chemical, biological, or physical integrity of a Traditional Navigable Water).

3.2 Mapping Methodology

Mapping efforts utilized Samsung Galaxy Tab 4 tablets equipped with Garmin GLO GPS Receivers. Delineation boundaries were drawn using aerial photography, field notes, and a 2004 wetland delineation completed by LSA Associates. Existing datasets such as the National Hydrography Dataset and the USGS topographic maps were considered during mapping. GPS data, digitized notes, and photos were imported into Esri ArcGIS, a Geographic Information Systems software suite, and interpreted into maps. Maps were produced at a minimum scale of 1 map inch to 400 feet on the ground using field data and presented over the existing conditions CAD file from RS&H.

These delineation shapes are for planning purposes only. The wetland boundaries should be marked in the field by an environmental scientist and surveyed by a professional land surveyor with equipment capable of submeter accuracy.

4 TECHNICAL FINDINGS

Our 2018 and 2019 field work resulted in the delineation of 6.24 acres jurisdictional wetlands within the Study Area. Non-wetland waters do not exist within the Study Area.

Twelve wetland patches were mapped within the Study Area (Exhibit A). These wetland features are palustrine emergent (Cowardin et al 1979) wetlands dominated by multi-stem arroyo willows and/or hydrophytic herbs. The hydrology that supports these wetlands is a combination of runoff from the airport and a high-water table due to the location. The airport was built at the confluence of two major creeks as they terminate at the Pacific Ocean. This would typically support an estuarine environment of marshland and willow woodlands but was filled to build the airport. To understand the system of each feature, a narrative description provides details of each wetland's vegetation, soil, and hydrology.

4.1 Wetland A

Wetland A is located along the southern bank of Meadow Creek at the northwestern end of the Study Area. The soil shares a water table with the perennial creek and supports obligate species such as silverweed and common threesquare. Around the periphery of the wetland, along the airport's chain link fence, there are arroyo willows. In January 2019, there was standing water present at three inches below the surface. The clayey soil's matrix color, depletions, and redox concentrations fit the requirements of the Depleted Below Dark Surface indicator.

4.2 Wetland B

The northern fringe of Wetland A supports saltgrass, Bermuda grass, and common threesquare. It is a slightly higher elevation than Wetland A which accounts for the decrease in obligate species and dominance. Additionally, this area did not have hydrology or hydric soil during either site visits.

4.3 Wetland C

Wetland C is a low lying area south of the southern runway that was likely formed when fill was installed to build the adjacent runway. This area supports fat-hen, silverweed, and common threesquare. There is no outlet from the wetland so the water likely flows off the adjacent runway and pools in the low lying area. Site investigators observed hydrogen sulfide odors and saturation.

4.4 Wetland D

Lakeside Avenue separates the Study Area from an emergent wetland within Meadow Creek. This wetland and Lakeside Avenue is lined with arroyo willows that make up a portion of Wetland D. This feature also supports silverweed, giant horsetail, California blackberry, and curly dock. The Depleted Matrix indicator was satisfied with 20 percent redox concentrations in a dark gray matrix. Oxidized rhizospheres were present and the vegetation passed the FAC-neutral test.

4.5 Wetland E

Wetland E is a finger of arroyo willows that is likely a relic of a much larger willow woodland that existed before the airport was built. These willows are near the confluence of Meadow Creek and Arroyo Grande Creek. The soil is clay loam texture and does not present hydric features nor hydrology indicators.

4.6 Wetland F

Wetland F is around the edge of Wetland C and continues further down the south side of the southern runway. This area does not support hydrophytic vegetation or hydrology but has a presence of facultative grasses such as beardless wild rye. The exact boundaries were indiscernible due to mowing activities so previous wetland delineations and aerial photos were relied upon and the size was drawn conservatively.

4.7 Wetland G

Another low lying area south of Wetland F supports hydrophytic species such as fat-hen, saltgrass, and rabbitsfoot grass. This area also had a biotic and salt crust on the surface and the soil smelled of hydrogen sulfide. A depleted layer with redox concentrations was present in the second horizon.

4.8 Wetland H

Along the north side of the northern runway is a low lying area with no outlet. It supports arroyo willows from the adjacent willow woodland as well as beardless wild rye, common threesquare, saltgrass, celery, and salt heliotrope. Oxidized rhizospheres were present in an observational soil pit as well as depletions and redox concentrations.

4.9 Wetland I

West of Wetland H, across 75 feet of asphalt, is another wetland dominated by beardless wild rye, brown-headed rush, and Mexican rush. Hydric soil indicators of sandy redox and hydrogen sulfide were present during the May 2018 site visit. Biotic crust and oxidized rhizospheres along living roots were also present as hydrology indicators.

4.10 Wetland J

Wetland J is along the southern Study Area boundary near Lakeside Avenue. Although this area is typically mowed, evidence of marsh jaumea and saltgrass is present. There was also saturation in observational soil pits and standing water in tire ruts. Hydrogen sulfide odor was present in ponding areas. A sample site was completed in the ruderal habitat along the runway and did not display wetland indicators therefore this wetland was mapped using a three- to four-foot setback from the runway since vegetation dominance determination was unreliable due to the mowed vegetation.

4.11 Wetland K

Wetland K is a row of arroyo willows along the southern fence near Wetland G. These trees and shrubs are recruits that have grown since the area was cleared for the construction of the airport.

Since the willows are growing along the fence and act as an aesthetic barrier, they have not been removed by the airport.

4.12 Wetland L

Similar to Wetland K, Wetland L is comprised of willows growing around the periphery of the airport. In this case, the willow woodland had not been completely removed with construction of the airport, as shown on historical aerials. These willows are part of the riparian habitat of Arroyo Grande Creek and are supported by the creek and high water table.

TABLE 2. FEDERAL JURISDICTIONAL WETLAND CHARACTERISTICS

Results of Wetland Determination Forms for wetland by Feature ID.

Feature	Sample Site	Dominant Species	Wetland Vegetation ?	Soil Indicator	Wetland Soil?	Hydrology Indicator	Wetland Hydrology?	Connection	Wetland Type
A	1	*P. anserina* (OBL) *S. pungens* (OBL)	Y	A11	Y	A2	Y	Adjacent	Emergent Palustrine
B	-	*D. spicata* (FAC)	Y	None	N	None	N	Adjacent	Emergent Palustrine
C	6	*A. prostrata* (FACW) *P. anserina* (OBL) *S. pungens* (OBL)	Y	A4	Y	A3, C1	Y	Adjacent	Emergent Palustrine
D	3	*S. lasiolepis* (FACW) *P. anserina* (OBL)	Y	S5	Y	C3, C1	Y	Adjacent	Scrub-shrub, Emergent Palustrine
E	-	*J. carnosa* (OBL) *S. lasiolepis* (FACW)	Y	None	N	None	N	Adjacent	Scrub-shrub Palustrine
F	-	Unidentifiable grasses (mowed)	Unknown	None	N	None	N	Adjacent	Emergent Palustrine
G	7	*P. monspeliensis* (FACW)	Y	A4, A11	Y	B11, B12, C1	Y	Isolated	Emergent Palustrine
H	-	*H. curassavicum* (FACU) *E. triticoides* (FAC) *S. pungens* (OBL)	Y	S4	Y	C3	Y	Isolated	Scrub-shrub, Emergent Palustrine
I	9	*J. mexicanus* (FACW) *J. phaeocephalus* (FACW)	Y	A4, S5	Y	B12, C1, C3	Y	Isolated	Emergent Palustrine
J	-	*J. carnosa* (OBL) *D. spicata* (FAC)	Y	A4	Y	A1	Y	Adjacent	Emergent Palustrine
K	-	*S. lasiolepis* (FACW)	Y	Unknown	Unknown	Unknown	Unknown	Adjacent	Scrub-shrub Palustrine
L	-	*S. lasiolepis* (FACW)	Y	Unknown	Unknown	Unknown	Unknown	Adjacent	Scrub-shrub Palustrine

UPL:	1% occurrence in wetlands	A4:	Hydrogen Sulfide	A1:	Surface Water
FACU:	1-33% in wetlands	A11:	Depleted Below Dark Surface	A3:	Saturation
FAC:	34-66% in wetlands	S4:	Sandy Gleyed Matrix	B10:	Biotic Crust
FACW:	67-99% in wetlands	S5:	Sandy Redox	B12:	Hydrogen Sulfide Odor
OBL:	99% in wetlands			C1:	FAC-Neutral Test
				C3:	Oxidized Rhizospheres along Living Roots

5 JURISDICTIONAL DELINEATION

The Study Area contains 6.24 acre of habitat that meets the definition of a wetland (Table 3). Most of these features displayed hydric soil, hydrophytic vegetation, and hydrology. Due to the proximity to two major creeks and the Pacific Ocean, as well as the problematic circumstances of recent drought years and vegetation maintenance, it can be assumed that the USACE will take jurisdiction over all features unless an Approved Jurisdictional Determination (AJD) is attained. The RWQCB, CDFW, CCC, and County of San Luis Obispo will also take jurisdiction over the wetlands.

TABLE 3. WETLAND MEASUREMENTS

Feature	Area (ac)	Area (sq ft)
A	0.83	36120
B	0.10	4294
C	0.18	7854
D	0.24	10625
E	0.33	14177
F	0.79	34588
G	0.22	9590
H	0.64	27998
I	0.64	27969
J	1.26	54688
K	0.31	13463
L	0.70	30280
Total	**6.24**	**271647**

This report is subject to verification by the appropriate agencies.

6 PHOTOGRAPHS

Wetland A

View northeast

January 2, 2019

Wetland A

Soil sample with redox and depletions

May 9, 2018

Wetland B

View northwest

January 2, 2019

Wetland B

View of substrate with saltgrass and fat-hen.

January 2, 2019

Wetlands C (lower elevation) and F.

View southeast.

January 2, 2019

Wetlands C (lower elevation) and F.

View northwest.

January 2, 2019

Wetland E
View west.
January 2, 2019

Wetland E
View southwest.
January 2, 2019

Wetland G and K

View southeast

January 2, 2019

Wetland G

Soil sample with depletions

May 9, 2018

Wetland H

View southeast with rye and threesquare

January 2, 2019

Wetland H

Soil sample with depletions and redox concentrations

January 2, 2019

Wetland I

View southwest with rushes and rye present

January 2, 2019

Wetland I

View northwest

January 2, 2019

Wetland J

View northwest, mowed grasses

January 2, 2019

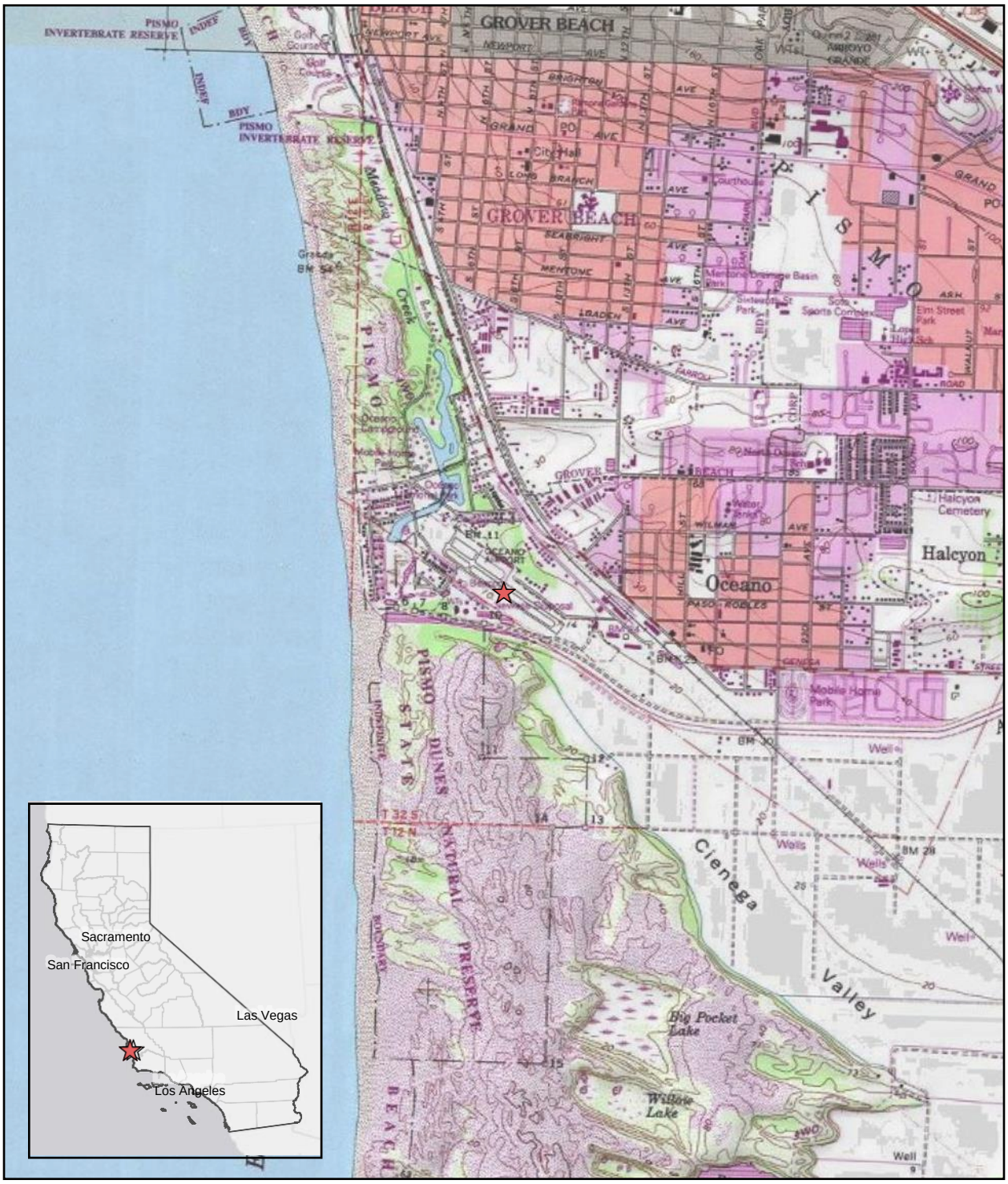
Wetland J near corner of Wetland E

View northeast, mowed grasses

January 2, 2019

7 FIGURES

Figure 1. United States Geological Survey Topographic Map



Legend

★ Study Area Location

N

0 0.25 0.5 0.75 1 Mile

Oceano Airport
Map Center: 120.62229°W 35.10117°N
Oceano, San Luis Obispo County

USGS Quadrangle: Oceano

Figure 2. Aerial Photograph

Legend

Study Area

0 200 400 600 Feet

N

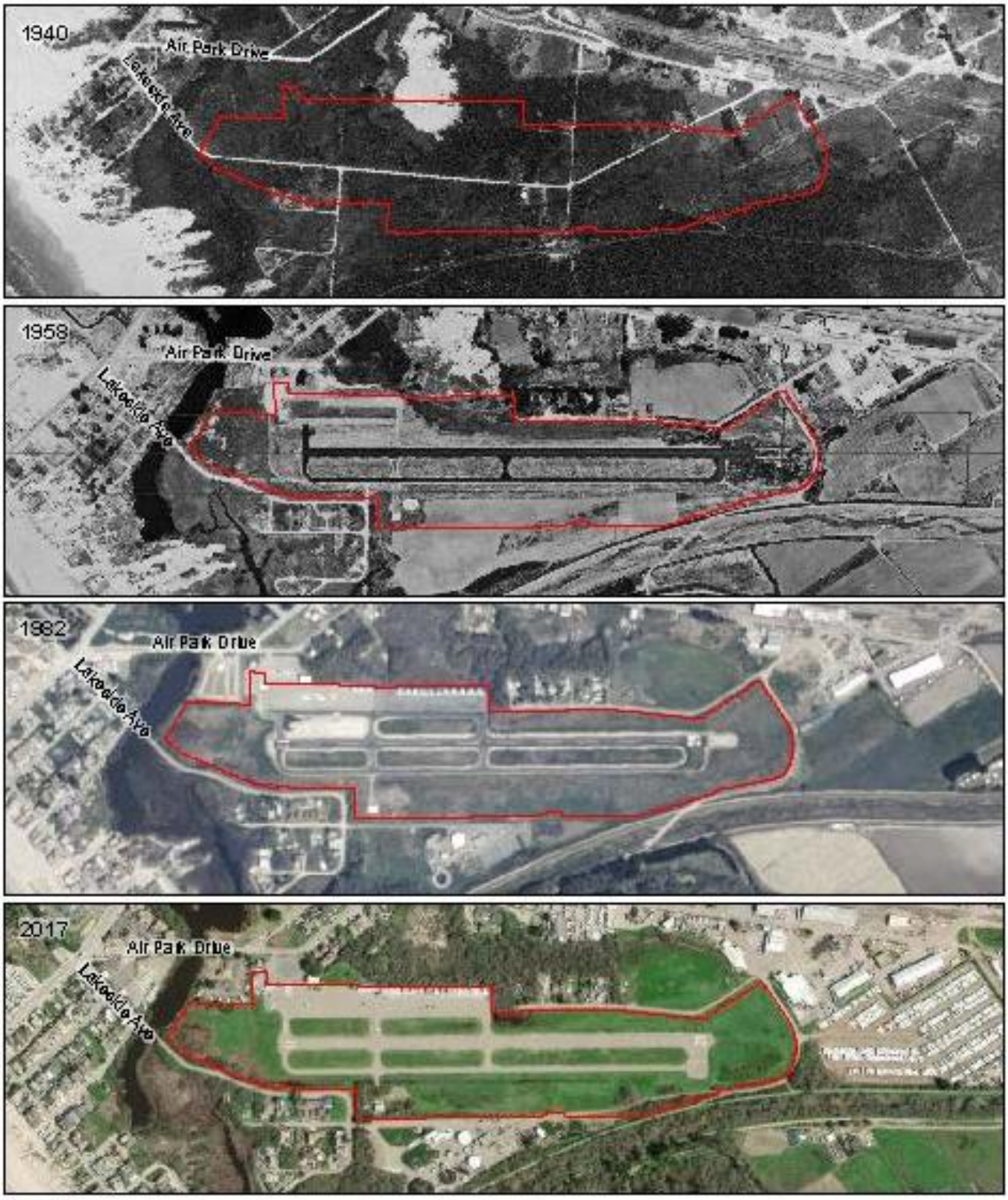
Oceano Airport
Map Center: 120.62254°W 35.1018°N
Oceano, San Luis Obispo County

Imagery Date: 2/24/2017

ALTHOUSE AND MEADE, INC.
ECOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
January 17, 2019 03:31 PM by JBB

Figure 3. Aerial Imagery History



Legend

Study Area

0 500 1,000 Feet

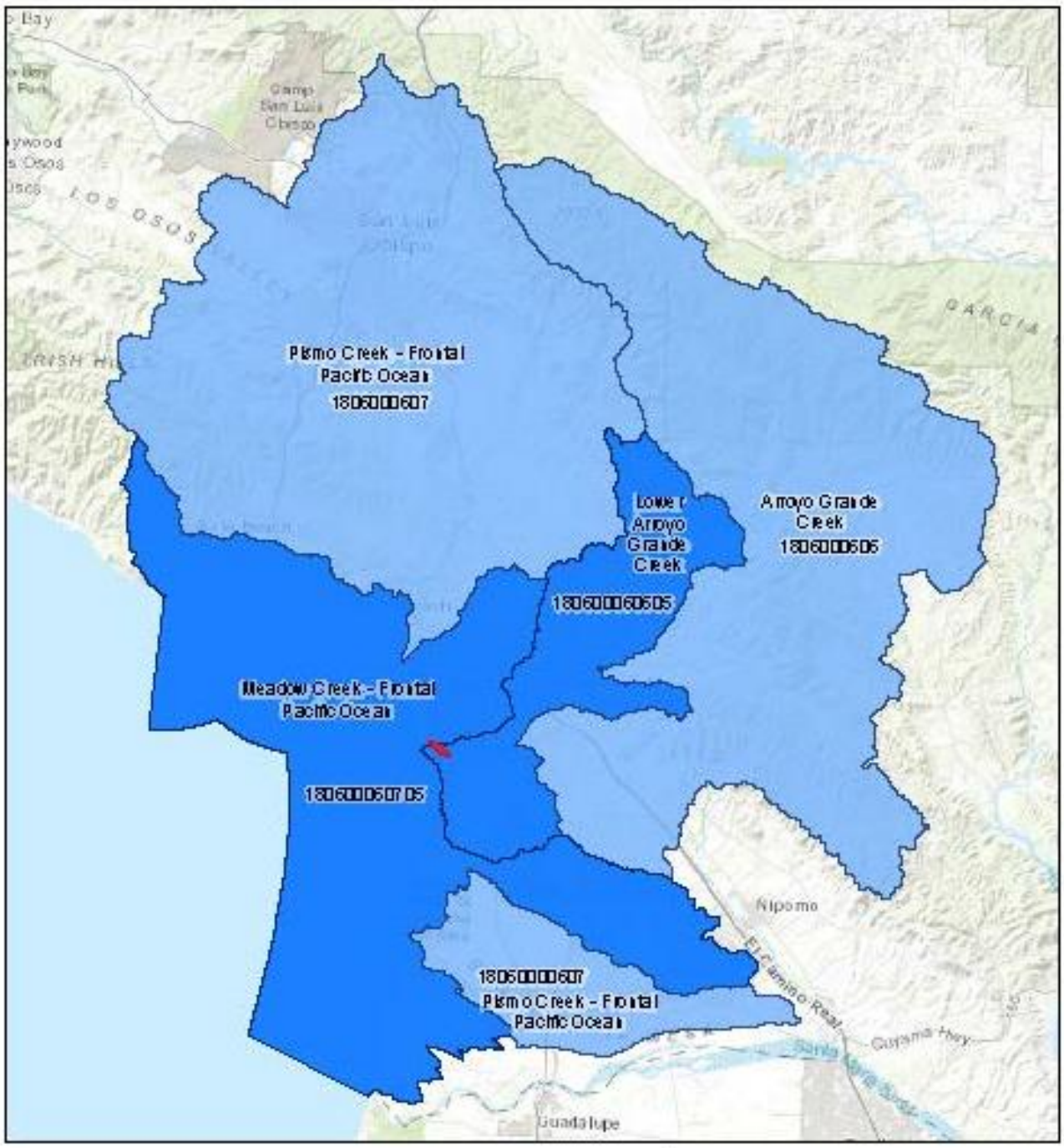
Oceano Airport
Map Center: 120.62263°W 35.10179°N
Oceano, San Luis Obispo County

Data Source: USDA NAIP, UCSB MIL

ALTHOUSE AND MEADE, INC.

Map Updated:
January 17, 2019 09:17 AM by JBB

Figure 4. Hydrologic Unit Codes



Legend

- Study Area
- 12-Digit Hydrologic Unit Code
- 10-Digit Hydrologic Unit Code

N

0 1.5 3 6 Miles

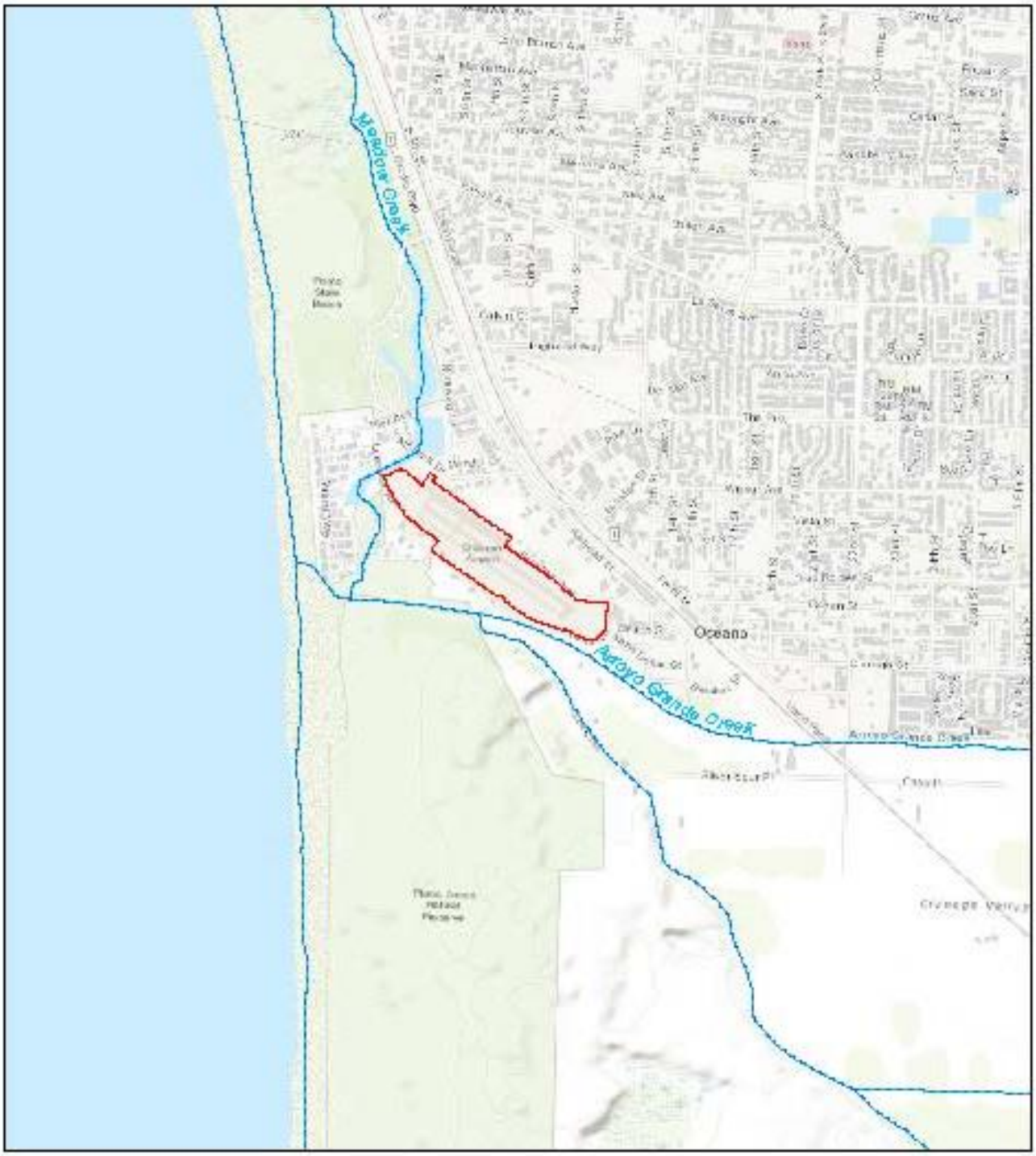
Oceano Airport
Map Center: 120.58275°W 35.16727°N
Oceano, San Luis Obispo County

Data Source: United States Geological Survey

ALTHOUSE AND MEADE, INC.

Map Updated:
January 15, 2019 09:00 AM by JBB

Figure 5. National Hydrography Dataset



Legend

Study Area

Drainages and Coastline

N

0 0.25 0.5 Miles

Oceano Airport
Map Center: 120.62154°W 35.10038°N
Oceano, San Luis Obispo County

Data Source: United States Geological Survey

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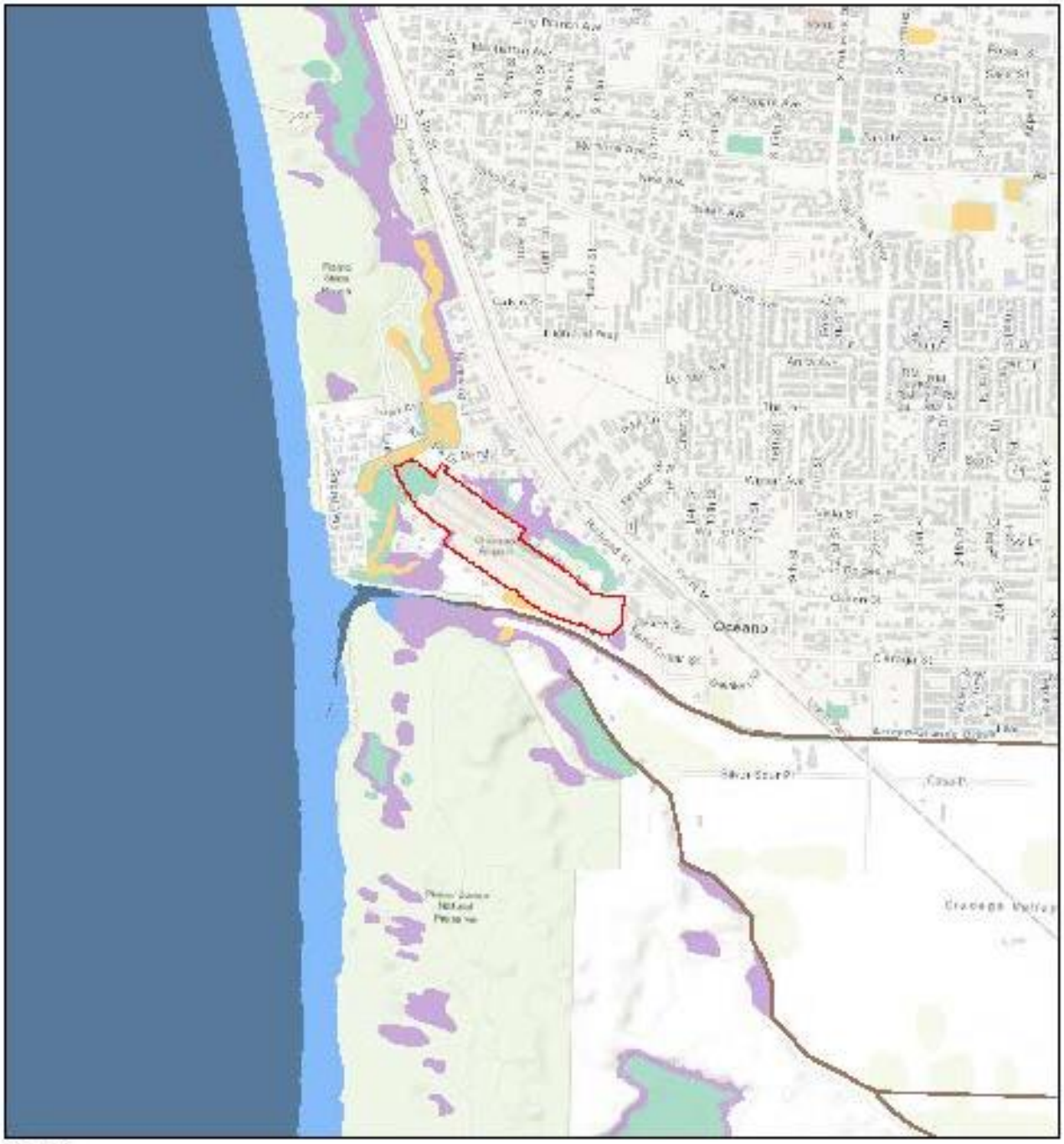
GEOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
January 15, 2019 08:55 AM by JBB

Figure 6. National Wetland Inventory



Legend

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine
- Study Area

N

0 0.25 0.5 Miles

Oceano Airport
Map Center: 120.62154°W 35.1008°N
Oceano, San Luis Obispo County

Data Source: United States Fish and Wildlife Service

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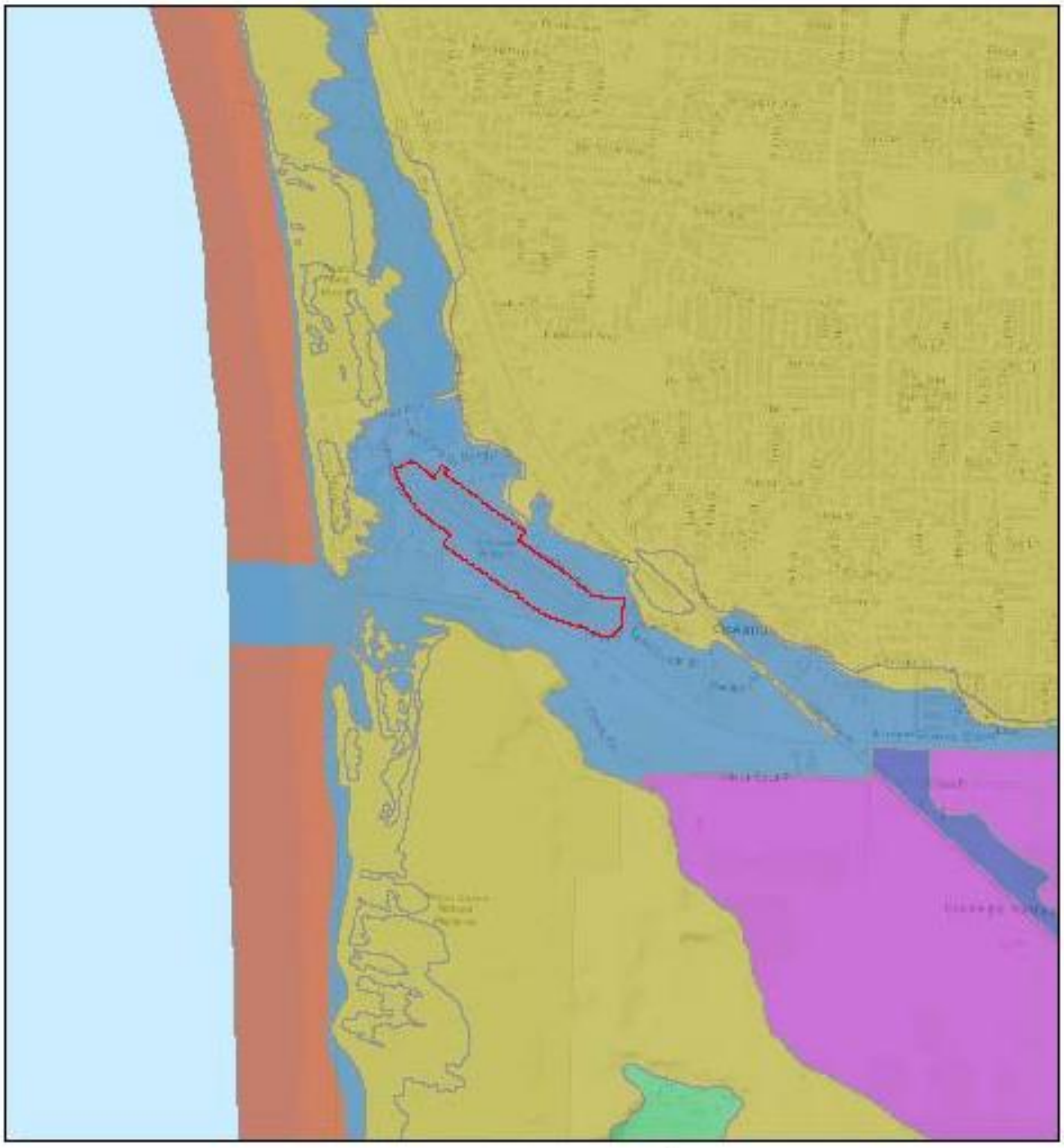
Map Updated:
January 15, 2019 08:56 AM by JBB

Figure 7. Federal Emergency Management Agency Flood Insurance Rate Map



Legend

Study Area

Flood Zone*

A

AE

AH

AO

VE

X

N

0 0.25 0.5 Miles

* Flood Zone Definitions on Reverse Side

Oceano Airport
Map Center: 120.62154°W 35.10038°N
Oceano, San Luis Obispo County

Data Source: United States Geological Survey

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Map Updated:
January 15, 2019 08:54 AM by JBB

FEMA/FIRM Zone Classification

Moderate to Low Risk Areas

Zone	Description
B and X (shaded)	Area of moderate flood hazard, usually the area between the limits of the 100- year and 500-year floods. B Zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
C and X (unshaded)	Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level. Zone C may have ponding and local drainage problems that don't warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100- year flood.

High Risk Areas

Zone	Description
A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
AE	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
A1-A30	These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
AH	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
AO	River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
AR	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.
A99	Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.
V	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. No base flood elevations are shown within these zones.
VE, V1-30	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

8 REFERENCES

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40 CFR 230. Section 404(b)(1) Guidelines for specification of disposal sites for dredged or fill material. Text from Code of Federal Regulations. Available at http://www.ecfr.gov. Accessed January 2019.

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_____. 2008b. A Regional supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0). Ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

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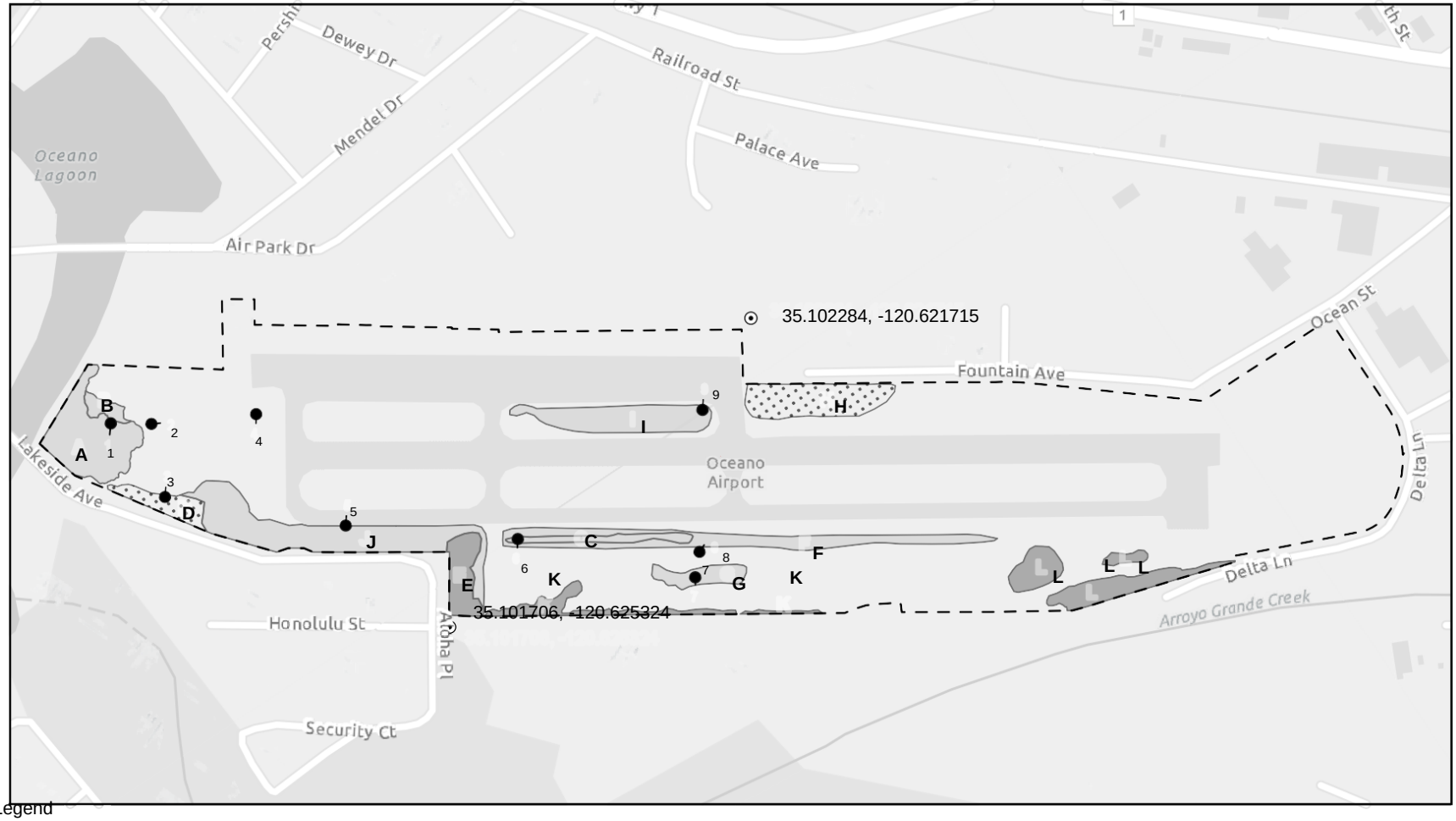
U.S. Department of Agriculture. Natural Resources Conservation District. 2010. Field Indicators of Hydric Soils in the United States. Version 7.0. G.W. Hurt and L.M. Vasilas (eds.). USDA, NRCS in cooperation with the National Technical Committee for Hydric Soils (NTCHS).

Exhibit A. Wetland Delineation



Legend

- Emergent Palustrine (4.02 acres)
- Scrub-shrub Palustrine (1.33 acres)
- Scrub-shrub, Emergent Palustrine (0.89 acres)
- Sample Site
- Site Control Point
- Study Area (41.98 acres)

0 100 200 300 Feet

Oceano Airport
Map Center: 120.62225°W 35.10187°N
Oceano, San Luis Obispo County

Investigators: Jacqueline Tilligkeit, Kyle Nessen, Andy McCrory

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
January 22, 2019 09:54 AM by JBB

EXHIBIT B. WETLAND DETERMINATION DATA FORMS

A United States Army Corps of Engineers, Wetland Determination Data Form (2008 Arid West Supplement Version 2.0) was completed in the field for two sampling sites. The forms included here are copies of forms written in the field. The original forms are on file in our office.

WETLAND DETERMINATION DATA FORM — Arid West Region

Project/Site: Oceano Airport City/County: ‹"*'+'+t Sampling Date: " "

Applicant/Owner: State: Sampling Point: /

Investigator(s): Jo Tillinghast & K. S. Nessen Section, Township, Range: T32S R13E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): flat Slope (%): <1

Subregion (LRR): C Lat: 35.0... Long: 120.626659 Datum:

Soil Map Unit Name: Mocho fine sandy loam NWI classification: / f'

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ____ No ____	

Remarks:

VEGETATION — Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species*	Indicator Status
1.			
2.			
3.			
4.			
= Total Cover			

Sapling/Shrub Stratum (Plot size:)	Absolute % Cover	Dominant Species*	Indicator Status
1.			
2.			
3.			
4.			
5.			
= Total Cover			

Herb Stratum (Plot size: 3x3m)	Absolute % Cover	Dominant Species*	Indicator Status
1. Potentilla anserina		Y	OBL
2. Schoenoplectus pungens		Y	OBL
3. Atriplex prostrata	90	N	FACW
	25		
4.			
5.			
6.			
7.			
8.			
= Total Cover			

Woody Vine Stratum (Plot size:)	Absolute % Cover	Dominant Species*	Indicator Status
1.			
2.			
= Total Cover			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: " (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x1 =
FACW species		x2 =
FAC species		x3 =
FACU species		x4 =
UPL species		x5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

Dominance Test is >50%

Prevalence Index is ≤3.0'

Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation' (Explain)

'Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ____

Remarks:

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					C	
2-12	10YR 4/2	93	10YR 3/6	2	C	PL	C	

[1]Type: C=Concentration, D=Deletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (AII)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): _____

Hydric Soil Present? Yes_____ No _____

[4]Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- (C2) Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- (C9) Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery
- hallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No_____ Depth (inches): _____

Water Table Present? Yes ✓ No_____ Depth (inches): "/

Saturation Present? (includes capillary fringe) Yes_____ No_____ Depth (inches): _____

Wetland Hydrology Present? Yes_____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM — Arid West Region

Project/Site: < %+ '*' 4* " City/County: *<* <T Sampling Date: " "

Applicant/Owner: / A17› "/ State: Sampling Point:

Investigator(s): Ja T. Gilligan & Ao McCrory Section, Township, Range: T3R-S R13E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): flat Slope (%): <1

Subregion (LRR): (MKC Lat: 35.103949 Long: -120.626379 Datum: WGS84

Soil Map Unit Name: Mocho fine sandy loam NWI classification: PEMA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No ✓		Is the Sampled Area within a Wetland? Yes ____ No ✓
Hydric Soil Present? Yes ____ No ✓		
Wetland Hydrology Present? Yes ____ No ____		

Remarks:

VEGETATION — Use scientific names of plants.

	Absolute % Cover	Dominant Species+	Indicator StdtU
Tree Stratum (Plot size: ")			
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: 3x3m)			
1. Unknown grasses / Bromus diandrus			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
= Total Cover			
Woody Vine Stratum (Plot size: /)			
1.			
2.			
= Total Cover			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust 0

Hy mowed, grasses unidentifiable

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of	Multiply by
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is 3.0'
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation' (Explain)

Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No ____

Remarks:

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Tvoe'	Loc“	Texture	Remarks

'Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 'Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (AII)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils':

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

'Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): /4

Hydric Soil Present? Yes_____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required check all that apply)

- Surface Water (A1)
- HighWater Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilted Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required§

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No ✓ Depth (inches): _____

Water Table Present? Yes_____ No Depth (inches): ____/_____

Saturation Present? (ncludes capillary fringe) Yes_____ No_____ Depth (inches): _____

Wetland Hydrology Present? Yes_____ No '_____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA F-ORM — Arid West Begion

Project/Site: Okeano-Airport City/County: "" - " Sampling Date: " "I' / %

Applicant/Owner: RS&H State: ' Sampling Point: ›

Investigator(s): A. McCroy & J. Tillinghast Section, Township, Range: T32S R13E

Landform (hi1slope, terrace. etc): flK*»‹ Localrelef (concave.convex.none): flat Slope (%): 1

Subregion (LRR): Lat: " " "'I Long: " ' ZA / Datum: !..7 . ., ' •/

Soil Map Unit Name: Mocho [illegible] NWI classification: Mr

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ___ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ___	Is the Sampled Area within a Wetland? Yes ___ No ___
Hydric Soil Present?	Yes ✓ No ___	
Wetland Hydrology Present?	Yes ✓ No ___	

Remarks:

VEGETATION — Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species*	Indicator Status
1.			
2.			
3.			
4.			
= Total Cover	0		
Sapling/Shrub Stratum (Plot size: m)			
1. °‹ * CW 0 /• r@	75	Y	FACW
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: 3m)			
1. Potentilla anserina	80	Y	OBL
2. Rubus ursinus	15	N	FAC
3. Equisetum telmateia	5	N	
4. Schoenoplectus pungens	5	N	
5.			
6.			
7.			
8.			
/'-"' .› = Total Cover			
Woodv Vine Stratum (Plot size: "')			
1. "r fa*, /?/."› •'. ‹ mA	10	Y	FAC
2.			
/ +' ' = Total Cover			

% Bare Ground in Herb Stratum ___ % Cover of Biotic Crust ___

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ___

Prevalence Index worksheet:

Total % Cover of'		Multiply bv
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 --	
Column Totals:	(A)	(B)

Prevalence Index = B/A = ___

Hyd phytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ù3.0'
- Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation' (Explain)

Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation PreSent? Yes ___ No ___

Remarks:

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Tvoe'	Loc'	Texture	Remarks
	FI" /							
I "“	, ‘•, *” ',-						"" "	

'Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 'Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (AII)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils':

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

'Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes_____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- ydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators/2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No Depth (inches): _____

Water Table Present? Yes_____ No ”_____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes_____ No_____ Depth (inches):

Wetland Hydrology Present? Yes ✓ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM — Arid West Region

Project/Site: Oceano Airport City/County: * "‹ *"" ' ' -\ Sampling Date: "K /

Applicant/Owner: RSoH State: Sampling Point: "

Investigator(s). Section, Township, Range. Z (

Landform (hillslope, terrace, etc.): //?. Local relief (concave, convex, none): Obra "

Subregion (LRR). %(%)' / Lat: 35.107608 Long: -120.6256 Datum: WGS84

Soil Map Unit Name: Mocho fine sandy loam NWI classification: PEMA

Are climatic / hydrloi conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes " No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes No Hydric Soil Present? Yes No Wetland Hydrology Present? Yes No	Is the Sampled Area within a Wetland? Yes No
Remarks:	

VEGETATION — Use scientific names of plants.

Absolute Dominant Indicator Tree Stratum (Plot size: r)	% Cover	Species+	Status
1.			
2.			
3.			
4.			
= Total Cover			
SaDling/Shrub Stratum (Plot size: ')			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: x3m)			
1. Bromus diandrus		Y	UPL
2. Erigeron foliosus		N	FACW
3. Plantago coronopus		N	FAC
4.			
5.			
6.			
7.			
8.			
/ " !'" = Total Cover			
Woody Vine Stratum (Plot size: .• ‹)			
1.			
2. = Total Cover			

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Remarks:

Mowed - dominated by upland grasses but ...

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (A)

Total Number of Dominant Species Across All Strata: (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

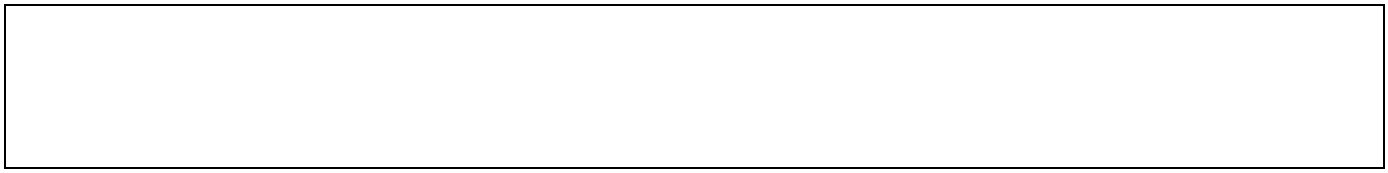
Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is 3.0'
- Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation' (Explain)

Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?

Yes NO



SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type'	Loc'	Texture	Remarks
&	"" 'u i rv / '	'a'						
e"	/ 3 / ° T'°‹	:/4 ".	lc i %/"	"'6 <	/'		' c	
	' "' "/	"						

'Tyge: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 'Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (AII)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

indicators for Problematic Hydric Soils':

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

'Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: none

Depth (inches): > 18

Hydric Soil Present? Yes_____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required' check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (CT)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No Depth (inches): _____

Water Table Present? Yes_____ No Depth (inches):

Saturation Present? (includes capillary fringe) Yes_____ No_____ Depth (inches): _____

Wetland Hydrology Present? Yes_____ No_____ "

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA F-ORM — Arid West Region

Project/Site: G« *+ "! City/County: TA " Sampling Date: —

Applicant/Owner: / t - State: Tm Sampling Point:

Investigator(s): A. McCrory & J. Tillinghast **Section, Township, Range:** %\

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): '‹-‹

Slope (%): Subregion (LRR): / / Lat: '*' %' ' -

Soil Map Unit Name: Hoorba... sandy loam Datum: I-7'J1

NWI classification: ""

Are climatic / hydrologic conditions on the site typical for this time of year? Yes____ No____ (If no, explain in Remarks.)

Are Vegetation ✓, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes____ No____

Are Vege(ation____, Soil____, or Hydrology____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No____		Is the Sampled Area within a Wetland? Yes ✓ No____
Hydric Soil Present? ✓ No____		
Wetland Hydrology Present? Yes ✓ No____		
Remarks:		

VEGETATION — Use scientific names of plants.

	Absolute % Cover	Dominant Species*	Indicator Status
Tree Stratum (Plot size: +* =‹)			
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: =‹)			
1.			
2.			
3.			
4.			
5.			
= Total Cover	*!-		
Herb Stratum (Plot size: 3x3m)			
1. Distichlis spicata			
2. Plantago coronopus	70	Y	FAC
3. Bromus diandrus		N	UPL
4. Festuca myuros	5	N	UPL
5.			
6.			
7.			
8.			
= Total Cover	/ I		
Woodv Vine Stratum (Plot size: 1-•.)			
1.			
2.			
= Total Cover	0		
% Bare Ground in Herb Stratum ____	% Cover of ~~Biotic Crust~~ 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____

Prevalence Index worksheet:

Total % Cover of		Multiply by
OBL species		x 1 =
FACW species		x 2 =
FAC species		x 3 =
FACU species		x 4 =
UPL species		x 5 =
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrphytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is :s3.0'
- Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation' (Explain)

Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ NO____

Revisit on 1-2-19 and the area was a strong presence of Juncus carnosa

Remarks:

SOIL

Sampling Point: '-"

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Tvoe'	Loc'	Texture	Remarks
0-7	10YR 3/2	100					SL	
7-14	10YR 3/2	85	10YR 5/8	15	C	M	SC	

'Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 'Locat n: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (AII)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- epleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils':

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

'Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):"

Type: none

Depth (inches

Hydric Soil Present? Yes_____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required' check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (CT)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No ✓ Depth (inches): _____

Water Table Present? Yes_____ No Depth (inches): >14

Saturation Present? (includes capillary fringe) Yes_____ No_____ Depth (inches): >14

Wetland Hydrology Present? Yes * No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM — Arid West Region

Project/Site: &+ rx =zm '/ ?/ ° " City/County: 4v kL Sampling Date: " "/ " I' ›

ApplicanPOwner: /!› " State: >{ Sampling Point:

Investigator(s): Jo Tilley Kent and Mc... Section, Township, Range: " 7 /',"? Landform (hillslope, terrace, etc.): ditch Local relief (concave, convex, none): ** Slope (%):

Subregion (LRR): 1 R R C Lat: 35.101903 Long: -120.629355 Datum: WGS 84

Soil Map Unit Name: Mocho fine sandy loam NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	Is the Sampled Area within a Wetland? Yes ____ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks: Within drainage area adjacent to runway - no culvert under road downstream to the northwest

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: %)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: zn v)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 3x3m)			
1. Atriplex prostrata	60	Y	FACW
2. Potentilla tenellis		Y	OBL
3. Schoenoplectus pungens	25	Y	
4.			
5.			
6.			
7.			
8.			
	// -- Total Cover		
Woody Vine Stratum (Plot size:			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum I ' % Cover of Biotic Crust "'

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ° (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 --
Column Totals:	(0) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

W Dominance Test is >50%

Prevalence Index is 3.0'

Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation' (Explain)

'Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes \ " No ____

Remarks:

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Tvoe'	Loc"	Texture	Remarks
0-6	10YR 3/2	100					SC	
6-10	10YR 4/1	30	7.5/10Y	50	C	M	SL	
	10YR 3/1	20						
10-18	10YR 4/1	100						gravelly
							S	

'Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 'Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (AII)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (SS)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils':

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

'Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: &"*

Depth (inches): /

Hydric Soil Present? Yes No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators/minimum of one required' check all that apply)

- Surface Water (A1)
- Leigh Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

SecondarY Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): 7

Saturation Present? (includes capillary fringe) Yes ✓ No _____ Depth (inches): "

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM — Arid West Region

Project/Site: Oceano Airport City/County: 1r1 ‹ Sampling Date: " "/ icy

Applicant/Owner: •A State: g Sampling Point: ""“

Investigator(s): A. McCrary & J. Tillinghast Section, Township, Range: % ‹

Landform (hillslope, terrace, etc.): -t#/ ++ Local relief (concave, convex, none): +‹1 ‹ * ' Slope (%): "/.

Subregion (LRR): LRRC Lat: 35 ... Long: — / Z- 4. " '" Datum: ______

Soil Map Unit Name: Mocho fine sandy loam NWI classification: z"/

Are climatic / hydrologic conditions on the site typical for this time of year? Yes \z' " No ______ (If no, explain in Remarks.)

Are Vegetation ✓, Soil ______, or Hydrology ______ significantly disturbed? Are "Normal Circumstances" present? Yes ______ No ______

Are Vegetation ______, Soil ______, or Hydrology ______ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ✓ No ______ Hydric Soil Present? Yes ✓ No ______ Wetland Hydrology Present? Yes ✓ No ______	Is the Sampled Area within a Wetland?	Yes ✓ No ______
Remarks:		

VEGETATION — Use scientific names of plants.

Tree Stratum (Plot size: ______)	Absolute % Cover	Dominant Species*	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: <‹ °)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 3x3m)			
1. Festuca perennis			
2. Atriplex prostrata	3	N	FAC
3. Polypogon monspeliensis	30	Y	FACW
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size: ______)			
1.			
2.			
	= Total Cover		
% Bare Ground in Herb Stratum ______	% Cover of Biotic Crust ______		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: ______ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A = ______

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ______ No ______

Remarks:

SOIL Sampling Point: r"

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Tvoe'	Loc'	Texture	Remarks
¿"	/rv F/+	"y /						
	"> "/		'" "	c.	"/ />"t			

'Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 'Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- l'cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (AII)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils':

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

'Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present): "

Type: none

Depth (inches): >14

Hydric Soit Present? Yes_____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soii Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- ✓ Salt Crust (B11)
- Biotic Crust (B12)
- AqLiatic Invertebrates (B13)
- ✓ Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (2 ormore required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No Depth (inches):

Water Table Present? Yes_____ No Depth (inches): >14

Saturation Present? (includes capillary fringe) Yes_____ No_____ Depth (inches): >14

Wetland Hydrology Present? Yes ✓ NO _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM — Arid West Region

ProjecPSite: Oceano Airport City/County: % /"++z=‹ " Sampling Date: " "

ApplicanPOwner: State: ° \ Sampling Point:

Investigator(s): J. Tillighert "e?z4. McCrory Section, Township, Range: A1 /'<"

Landform (hilslope, terrace, etc): ^/4</rv Localreief(concave,convex. none): <iu Io Slope (%):

Subregion (LRR): f) Lat: Long: " /"X= != " "?H f "" Datum:

Soil Map Unit Name: Mocho fine sandy loam NWI classification: ""

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation ✓, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes ___ No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No ✓	Is the Sampled Area within a Wetland? Yes ___ No ___
Hydric Soil Present?	Yes ___ No ✓	
Wetland Hydrology Present?	Yes ___ No ✓	

Remrk
ses present, possible one-factor

VEGETATION — Use scientific names of plants.

Tree Stratum (Plot size: ')	Absolute % Cover	Dominant Species*	Indicator Status
1.			
2.			
3.			
4.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: "I »---)			
1.			
2.			
3.			
4.			
5.			
"I = Total Cover			
Herb Stratum (Plot size: X -)			
1. Bromus diandrus			UPL
2. Festuca perennis			FAC
3. Elymus triticoides			FAC
4.			
6.			
7.			
8.			
= Total Cover			
Woody Vine Stratum (Plot size: ‹)			
1.			
2.			
= Total Cover			

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ___ (A)

Total Number of Dominant Species Across All Strata: ___ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ___ (A/B)

Prevalence Index worksheet:

Total % Cover of'	Multiply by'
OBL species ___	x 1 = ___
FACW species ___	x 2 = ___
FAC species ___	x 3 = ___
FACU species ___	x 4 = ___
UPL species ___	x 5 = ___
Column Totals: ___ (A)	___ (B)

Prevalence Index = B/A = ___

Hydrophytic Vegetation Indicators:

Dominance Test is >50%

Prevalence Index is s3.0'

Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation' (Explain)

Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ___ No ___

Remarks:
Grasses partially identifiable due to g " . o' ' 'q,
Presence & absence determined but

SOIL Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Tvoe'	Loc“	Texture	Remarks
	'* -	r:?					"	

'Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 'Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulflde (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (AII)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils':

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

'Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: “*

Depth (inches): f ”7 -

Hydric Soil Present? Yes_____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required' check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Biotic Crust (B12)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes_____ No Depth (inches): _____

Water Table Present? Yes_____ No _____ Depth (inches): f -

Saturation Present? (includes capillary fringe) Yes_____ No ✓ Depth (inches):)= /''in

Wetland Hydrology Present? Yes_____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM — Arid West Region

Project/Site: Oceano Airport City/County: A1 Sampling Date: 9-18

ApplicanPOwner: State: Sampling Point:

Investigator(s): Section, Township, Range: A1

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): 1° Slope (%):

Subregion (LRR): Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation, Soil, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No

Are Vegetation, Soil, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No	Is the Sampled Area within a Wetland? Yes ✓ No
Hydric Soil Present?	Yes ✓ No	
Wetland Hydrology Present?	Yes ✓ No	

Remarks:

VEGETATION — Use scientific names of plants.

Tree Stratum (Plot size: I)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	-- Total Cover		
Herb Stratum (Plot size: 3m)			
1. Juncus phaeocephalus	30	Y	FACW
2. Rumex crispus			
3. Juncus mexicanus	55	Y	FACW
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum / % Cover of Biotic Crust

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)

Prevalence Index worksheet:

Total % Cover of	Multiply by	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals:	(A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ✓ Dominance Test is >50%
- Prevalence Index is :s3.0'
- Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation' (Explain)

Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks:

SOIL

Sampling Point: "

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Tvoe'	Loc"	Texture	Remarks
0-5	10YR 4/1	98	10YR 5/8	2	C	PL	SL	
5-8	10YR 5/3	85	10YR 5/8	15	C	PL	SL	
8-14	10YR 2/1	95	10YR 5/8	5	C	PL	C	

'Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. 'Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unss otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (AS) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (AII)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils':

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

'Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: none

Depth(inches): >14

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required' check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- salt Crust (B11)
- Biotic Crust (B12)
- aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres along Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes NO ✓ Depth (inches):

Water Table Present? Yes No ✓ Depth (inches): /

Saturation Present? (includes capillary fringe) Yes No Depth (inches): 7

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

APPENDIX A. CUSTOM USDA SOIL REPORT

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for San Luis Obispo County, California, Coastal Part

Oceano County Airport

May 4, 2018

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

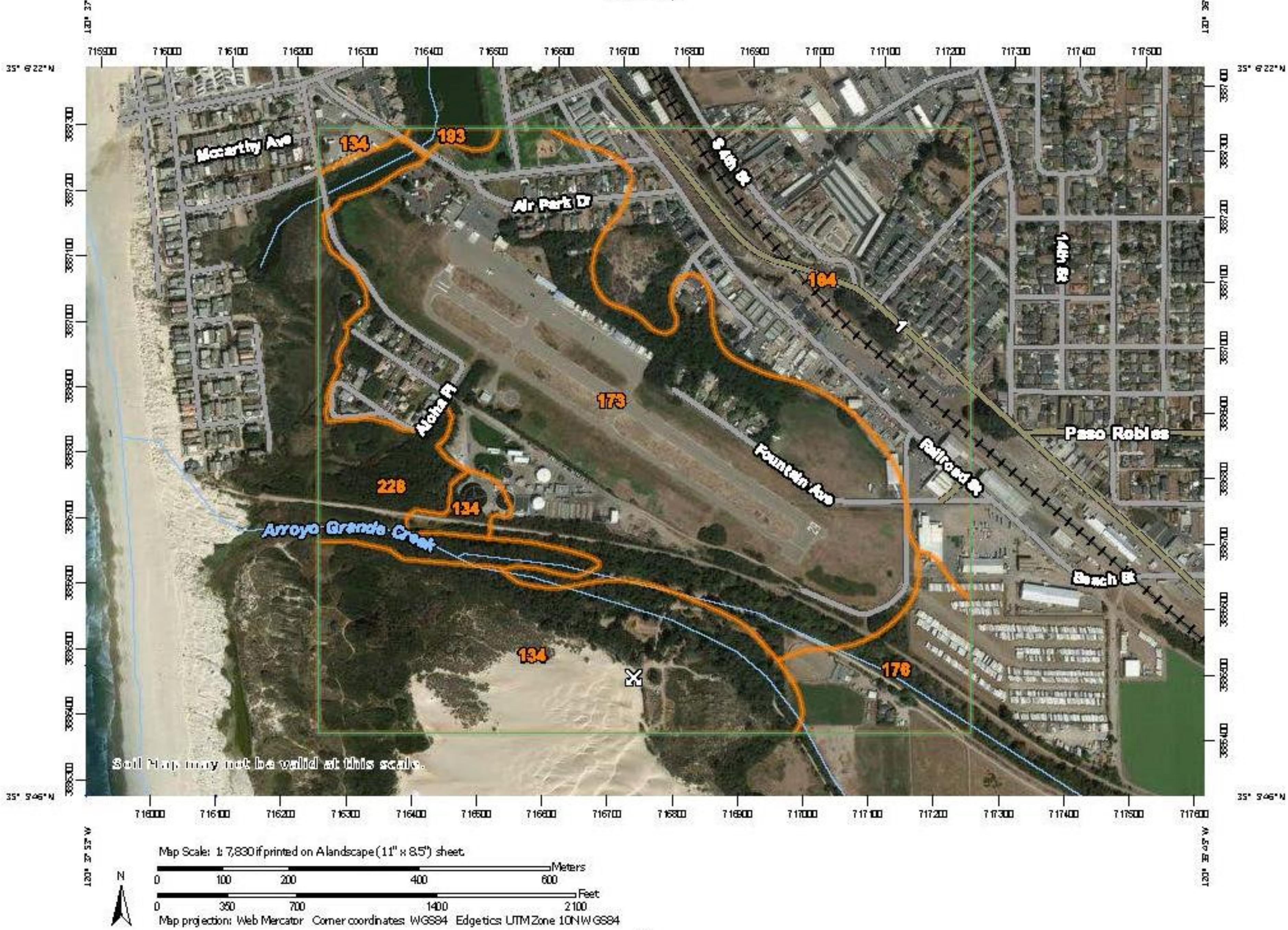
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



9

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Luis Obispo County, California, Coastal Part
Survey Area Data: Version 10, Sep 13, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Feb 23, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
134	Dune land	45.1	19.7%
173	Mocho fine sandy loam, 0 to 2 percent slopes, MLRA 14	97.1	42.4%
176	Mocho variant fine sandy loam	11.9	5.2%
184	Oceano sand, 0 to 9 percent slopes	57.5	25.1%
193	Psamments and Fluvents, wet	1.0	0.4%
228	Water	16.4	7.2%
Totals for Area of Interest		**229.1**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Luis Obispo County, California, Coastal Part

134—Dune land

Map Unit Composition

Dune land: 90 percent
Minor components: 9 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dune Land

Setting

Landform: Dunes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread

Typical profile

H1 - 0 to 6 inches: fine sand
H2 - 6 to 60 inches: fine sand

Interpretive groups

Land capability classification (irrigated): 8e
Land capability classification (nonirrigated): 8e
Hydric soil rating: No

Minor Components

Baywood

Percent of map unit: 3 percent
Hydric soil rating: No

Capistrano, soils

Percent of map unit: 3 percent
Hydric soil rating: No

Beaches

Percent of map unit: 3 percent
Landform: Beaches
Hydric soil rating: Yes

173—Mocho fine sandy loam, 0 to 2 percent slopes, MLRA 14

Map Unit Setting

National map unit symbol: 2tyyq
Elevation: 10 to 1,660 feet
Mean annual precipitation: 13 to 21 inches
Mean annual air temperature: 56 to 60 degrees F
Frost-free period: 300 to 360 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Mocho and similar soils: 85 percent

Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mocho

Setting

Landform: Alluvial fans, alluvial flats
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile

H1 - 0 to 18 inches: fine sandy loam
H2 - 18 to 45 inches: silty clay loam
H3 - 45 to 60 inches: stratified sand to gravelly sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Haploxerolls

Percent of map unit: 3 percent
Hydric soil rating: No

Metz

Percent of map unit: 3 percent
Hydric soil rating: No

Sorrento

Percent of map unit: 3 percent
Hydric soil rating: No

Camarillo

Percent of map unit: 2 percent
Hydric soil rating: No

Xerofluvents

Percent of map unit: 1 percent

Landform: Drainageways
Hydric soil rating: Yes

Mocho, loam
Percent of map unit: 1 percent
Hydric soil rating: No

Salinas, loam
Percent of map unit: 1 percent
Hydric soil rating: No

Mocho, silty clay loam
Percent of map unit: 1 percent
Hydric soil rating: No

176—Mocho variant fine sandy loam

Map Unit Setting
National map unit symbol: hbpq
Elevation: 0 to 500 feet
Mean annual precipitation: 16 to 20 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 300 to 350 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition
Mocho variant and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Mocho Variant

Setting
Landform: Alluvial fans, alluvial flats
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile
H1 - 0 to 15 inches: fine sandy loam
H2 - 15 to 33 inches: very fine sandy loam
H3 - 33 to 64 inches: stratified gravelly sand

Properties and qualities
Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Marimel, sandy clay loam

Percent of map unit: 3 percent
Hydric soil rating: No

Mocho, fine sandy loam

Percent of map unit: 3 percent
Hydric soil rating: No

Mocho, silty clay loam

Percent of map unit: 3 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 2 percent
Landform: Alluvial flats
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Tujunga, loamy sand

Percent of map unit: 2 percent
Hydric soil rating: No

Mocho variant, noncalcareous

Percent of map unit: 2 percent
Hydric soil rating: No

184—Oceano sand, 0 to 9 percent slopes

Map Unit Setting

National map unit symbol: hbpz
Elevation: 10 to 500 feet
Mean annual precipitation: 15 to 19 inches
Mean annual air temperature: 57 degrees F

Frost-free period: 235 to 365 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Oceano and similar soils: 85 percent
Minor components: 9 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Oceano

Setting

Landform: Dunes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Eolian deposits

Typical profile

H1 - 0 to 29 inches: sand
H2 - 29 to 60 inches: sand

Properties and qualities

Slope: 0 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): 4s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Ecological site: SANDY (R014XD059CA)
Hydric soil rating: No

Minor Components

Baywood, fine sand

Percent of map unit: 3 percent
Hydric soil rating: No

Garcy, sandy loam

Percent of map unit: 3 percent
Hydric soil rating: No

Dune land

Percent of map unit: 3 percent
Hydric soil rating: No

193—Psamments and Fluvents, wet

Map Unit Setting

National map unit symbol: hbq8
Elevation: 120 to 150 feet
Mean annual precipitation: 14 to 24 inches
Mean annual air temperature: 57 degrees F
Frost-free period: 275 to 325 days
Farmland classification: Not prime farmland

Map Unit Composition

Psamments and similar soils: 45 percent
Fluvents and similar soils: 45 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Psamments

Setting

Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium

Typical profile

H1 - 0 to 18 inches: loamy sand
H2 - 18 to 50 inches: stratified loamy sand to loamy fine sand
H3 - 50 to 60 inches: loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 10 to 20 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): 6w
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Description of Fluvents

Setting

Landform: Basin floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium

Typical profile

H1 - 0 to 18 inches: loamy sand
H2 - 18 to 50 inches: stratified loamy sand to loamy fine sand
H3 - 50 to 60 inches: loam

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 10 to 20 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): 6w
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Minor Components

Psamments, occasionally flooded

Percent of map unit: 3 percent
Hydric soil rating: No

Fluvents, occasionally flooded

Percent of map unit: 3 percent
Hydric soil rating: No

Duneland

Percent of map unit: 2 percent
Hydric soil rating: No

Corralitos variant

Percent of map unit: 2 percent
Hydric soil rating: No

228—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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APPENDIX H

Applicable Laws and Regulations

APPENDIX H: APPLICABLE LAWS AND REGULATIONS

The following are the applicable laws and regulations associated with each environmental resource category included in this Environmental Assessment.

AIR QUALITY

In addition to the applicable federal laws the Airport is subject to State of California and local air quality regulations, as described below.

Federal Laws

The CAA (42 USC §§ 7401-761q) is the primary statute governing air quality. The U.S. Environmental Protection Agency (USEPA) sets National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. The USEPA has established NAAQS for the following six "criteria" pollutants based on human health-based and/or environmental (science-based) criteria.[1] The USEPA regulates these pollutants by developing guidelines for setting permissible levels: carbon monoxide (CO); lead (Pb); nitrogen dioxide (NO2); ozone (O3); particulate matter (PM10 and PM2.5); and sulfur dioxide (SO2).

California Regulations

California has established California Ambient Air Quality Standards (CAAQS) that, in some cases, are more restrictive than the NAAQS.

BIOLOGICAL RESOURCES

The relevant federal laws, regulations, and executive orders related to biological resources include:

- The Endangered Species Act (16 United States Code (USC) §§ 1531-1544)
- Bald and Golden Eagle Protection Act (16 USC §§ 668 et seq.)
- Magnuson-Stevens Fishery Conservation and Management Act (16 USC § 1801 et seq.)
- Fish and Wildlife Coordination Act of 1980 (16 USC § 661-667)
- Executive Order (E.O.) 13112, Invasive Species (64 FR 6183)
- Marine Mammal Protection Act (16 USC § 1361 et seq.)
- Migratory Bird Treaty Act (MBTA) (16 USC §§ 703 et seq.)
- EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds (66 FR 3853)
- Incorporating Biodiversity Considerations into Environmental Impact Analysis under NEPA (CEQ, 1993)
- Memorandum of Understanding to Foster the Ecosystem Approach (CEQ, 1995)

The following regulations implement the federal acts that protect biotic communities:

- 50 CFR Parts 17 and 402 implement the ESA.
- 50 CFR Part 22 implements the Bald and Golden Eagle Protection Act.
- 50 CFR Part 600 implements the Magnuson-Stevens Fishery Conservation and Management Act.
- 50 CFR Parts 18 and 216 implement the Marine Mammal Protection Act.

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[1] USEPA (2017, January 18) Criteria Air Pollutants. Retrieved March 2018, from https://www.epa.gov/criteria-air-pollutants.

- 50 CFR Part 21 implements the MBTA.

CLIMATE

Relevant federal laws, regulations, and executive orders to climate include:

- CAA (42 USC §§ 7408, 7521, 7571, 7661 et seq.);
- EO 13514, Federal Leadership in Environment Energy and Economic Performance (74 FR 52117);
- EO 13653, Preparing the United States for the Impacts of Climate Change (78 FR 66817); and
- EO 13693, Planning for Federal Sustainability (80 FR 15869).
- 40 CFR Parts 60, 85, 86, and 600 implement the federal acts related to climate.

COASTAL RESOURCES

Relevant federal laws, regulations, and executive orders to coastal resources include:

- Coastal Barrier Resources Act (USC § 3501 et seq.)
- Coastal Zone Management Act (16 USC §§ 1451-1466)
- National Marine Sanctuaries Act (16 USC § 1431 et seq.)
- EO 13089, Coral Reef Protection (63 FR 32701, (June 16, 1998))
- EO 13547, Stewardship of the Ocean, Our Coasts, and the Great Lakes (75 FR 43021-43027, (July 22, 2010)

The following regulations implement the federal acts related to coastal resources.

- U.S. Department of the Interior Coastal Barrier Act Advisory Guidelines, 57 FR 52730, (November 5, 1992))
- 15 CFR part 930, subparts C and D and 15 CFR part 923
- 15 CFR part 922, subparts F through R
- San Luis Obispo County Coastal Zone Land Use Ordinance (CZLUO)
- San Luis Obispo County Coastal Plan/Local Coastal Program (LCP)
- San Luis Obispo County Airport Land Use Plan (ALUP).

DEPARTMENT OF TRANSPORTATION ACT, SECTION 4(F) AND LAND AND WATER CONSERVATION FUND ACT SECTION 6(F)

Relevant federal laws, regulations, and executive orders that relate to Section 4(f) resources include:

- U.S. Department of Transportation (USDOT) Act – Section 4(f) (49 USC § 303.);
- Land and Water Conservation Fund (LWCF) Act of 1965 (16 USC §§ 4601-4604 et seq.);
- Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) – Section 6009 (49 USC § 303.); and
- U.S. Department of Defense Reauthorization (Public Law (P.L.) 105-185, Division A, Title X, Section 1079, November 18, 1997, 111 Stat. 1916).

The following regulations implement the federal acts related to Section 4(f) resources.

- 23 CFR Part 774 et seq. implements USDOT Act – Section 4(f) and SAFETEA-LU – Section 6009.
- 36 CFR Part 59 et seq. implements the LWCF Act of 1965.

Section 4(f) of the USDOT Act, which is codified and renumbered as Section 303(c) of 49 USC, provides that the Secretary of Transportation will not approve any program or project that requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land from an historic site of national, State, or local

significance as determined by the officials having the jurisdiction thereof, unless there is no feasible and prudent alternative to the use of such land and such program, and the project includes all possible planning to minimize harm resulting from the use.

Section 6(f) of the LWCF, 16 United States Code § 4601 et. seq. provides funds for buying or developing public use recreational lands through grants to local and state governments. LWCF Section 6(f)(3) prevents conversion of lands purchased or developed with LWCF to non-recreation uses unless the conversion is approved by the Secretary of Interior acting through the National Park Service. No LWCF lands would be converted to non-recreational use as a result of any of the alternatives proposed in this EA. Therefore, LWCF Section 6(f) lands are not discussed further in this EA.

HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

Relevant federal laws, regulations, and executive orders relating to hazardous materials, solid waste, and pollution prevention include:

- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC §§ 9601-9765);
- Emergency Planning and Community Right to Know Act (42 USC §§ 11001-11050)
- Federal Facilities Compliance Act (42 USC § 6961)
- Hazardous Materials Transportation Act (49 USC §§ 5101-5128)
- Oil Pollution Prevention Act of 1990 (33 USC §§ 2701-2762)
- Pollution Prevention Act (42 USC §§ 13101-13109)
- Toxic Substances Control Act (TSCA) (15 USC §§ 2601-2697)
- Resource Conservation and Recovery Act (RCRA) (42 USC §§ 6901-6992k)
- EO 12088, Federal Compliance with Pollution Control Standards (43 FR 47707)
- EO 12580, Superfund Implementation (52 FR 2923), (63 CFR 45871), and (68 CFR 37691)
- EO 13423, Strengthening Federal Environmental, Energy, and Transportation Management (72 FR 3919)
- EO 13514, Federal Leadership in Environmental, Energy, and Economic Performance (74 FR 52117)

The following regulations and memorandum implement the federal acts related to hazardous materials, solid waste, and pollution prevention.

- 40 CFR Parts 300, 311, 355, 370, and 373 implement CERCLA.
- 40 CFR Parts 350-372 implement the Emergency Planning and Community Right to Know Act.
- 40 CFR Part 22 implements the Federal Facilities Compliance Act.
- 49 CFR Parts 100-185 implement the Hazardous Materials Transportation Act.
- 40 CFR Parts 109-116 implement the Oil Pollution Act.
- 40 CFR Parts 240-299 implements RCRA.
- 40 CFR Parts 745, 761, and 763 implements TSCA.

In a regulatory context, the terms "hazardous wastes," "hazardous substances," and "hazardous materials" have very specific meanings related to specific federal laws as described below.

- **Hazardous Wastes.** RCRA defines hazardous wastes (sometimes called characteristic wastes) as solid wastes that are ignitable, corrosive, reactive, or toxic. Examples include waste oil, mercury, lead or battery acid. In addition, the EPA has determined specific types of solid

wastes to be hazardous. Examples include degreasing solvents, petroleum refining waste, or pharmaceutical waste.

- **Hazardous Substances.** CERCLA defines this term broadly to include hazardous wastes, hazardous air pollutants, or hazardous substances designated under the CWA and the TSCA. These substances include elements, compounds, mixtures, or solutions, or substances that pose substantial harm to human health or environmental resources. Hazardous substances do not include petroleum or natural gas or materials such as ammonia, bromine, chlorine, or sodium cyanide.
- **Hazardous Materials.** Hazardous materials are any substances commercially transported that pose unreasonable risk to public health, safety, and property. These substances include hazardous wastes and hazardous substances as well as petroleum and natural gas substances and materials such as household batteries, gasoline, or fertilizers.

HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

The National Historic Preservation Act (NHPA) is the primary statute governing Historic Architectural, Archaeological, and Cultural Resources. Applicable statutes and executive orders include:

- American Indian Religious Freedom Act (42 USC § 1996)
- Antiquities Act of 1906 (54 USC §§320301-320303)
- Archeological and Historic Preservation Act (54 USC §§ 312501-312508)
- Archeological Resources Act (16 USC §§ 470aa-470mm)
- USDOT Act, Section 4(f) (49 USC § 303)
- Historic Sites Act of 1935 (16 USC §§ 461-467)
- Native American Graves Protection and Repatriation Act (25 USC §§ 3001-3013)
- Public Building Cooperative Use Act (40 USC §§ 601a, 601a1, 606, 611c, and 612a4)
- EO 11593, Protection and Enhancement of the Cultural Environment (36 FR 8921)
- EO 13006, Locating Federal Facilities on Historic Properties in Our Nation's Central Cities (61 FR 26071)
- EO 13007, Indian Sacred Sites (61 FR 26771)
- EO 13175, Consultation and Coordination with Indian Tribal Governments (65 FR 67249)
- Executive Memorandum, Government-to-Government Relations with Native American Tribal Governments (April 29, 1994)
- Executive Memorandum on Tribal Consultation (Nov. 5, 2009) (65 FR 67249)
- USDOT Order 5650.1, Protection and Enhancement of the Cultural Environment

The following regulations implement the federal acts related to historical, architectural, archeological, and cultural resources.

- 36 CFR Parts 60, 62.1, 65, 68, 73, 78, 79, and 800 implement the NHPA.
- 43 CFR §§ 7.7 and 7.32, and 25 CFR Part 262.7 implement the American Indian Religious Freedom Act.
- 43 CFR Part 3 implements the Antiquities Act of 1906.
- 36 CFR Parts 68 and 79 implements the Archeological and Historic Preservation Act.
- 43 CFR Part 7, 36 CFR Part 79, and 25 CFR Part 262 implement the Archaeological Resources
- Protection Act.

- 23 CFR Part 774 implements the USDOT Act – Section 4(f).
- 36 CFR Part 65 implements the Historic Sites Act of 1935.
- 43 CFR Part 10 and 25 CFR § 262.8 implement the Native American Graves Protection and Repatriation Act.
- 41 CFR Parts 101-117 implement the Public Building Cooperative Use Act.

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- 36 CFR Parts 68 and 79 implements the Archeological and Historic Preservation Act.
- 43 CFR Part 7, 36 CFR Part 79, and 25 CFR Part 262 implement the Archaeological Resources Protection Act.
- 23 CFR Part 774 implements the USDOT Act – Section 4(f).
- 36 CFR Part 65 implements the Historic Sites Act of 1935.
- 43 CFR Part 10 and 25 CFR § 262.8 implement the Native American Graves Protection and Repatriation Act.
- 41 CFR Parts 101-117 implement the Public Building Cooperative Use Act.

LAND USE

Relevant federal laws, regulations, and executive orders that relate to Land Use include:

- Airport and Airway Improvement Act of 1982, and subsequent amendments (49 USC § 47107(a)(10)
- Airport Improvement Program (49 USC § 47106 (a)(1)
- Airport Safety, Protection of Environment, Criteria for Municipal Solid Waste Landfills.

The compatibility of existing and planned land uses with an aviation proposal is considered in relation to noise impacts, disruption of communities, induced socioeconomic impacts and land uses protected under Section 4(f) of the Department of Transportation Act. Also, airport sponsors such as San Luis Obispo county are required to provide the FAA the sponsor's assurance as required by 49 USC §47107(a)(10) that appropriate action, including the adoption of zoning laws, has been or will be taken, to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal aircraft operations, including landing and takeoff of aircraft. In accordance with 49 USC § 47101 et. seq., an airport project can only receive federal Airport Improvement Program grant funding if the Secretary of Transportation is satisfied that the project is consistent with the plans (existing at the time a project is approved) of public agencies for development of the area in which the airport is located.

Land use regulation is largely the responsibility of states, which delegate authority to local governments. The closest residential areas to the site of the Proposed Action are adjacent to the taxiways on either side of the runway at a distance of about 120 to 200 feet.

NATURAL RESOURCES AND ENERGY SUPPLY

Statutes and executive orders that are relevant to natural resources and energy supply impacts include:

- Energy Independence and Security Act (42 USC § 17001 et seq.)
- Energy Policy Act (42 USC § 15801 et seq.)
- EO 13423, Strengthening Federal Environmental, Energy, and Transportation Management (72 FR 3919)
- EO 13514, Federal Leadership in Environmental, Energy, and Economic Performance (74 FR 52117)

NOISE AND NOISE-COMPATIBLE LAND USE

Statutes and executive orders that are relevant to noise and noise-compatible land use impacts include:

- The Control and Abatement of Aircraft Noise and Sonic Boom Act of 1968 (49 USC § 44715)
- The Noise Control Act of 1972 (42 USC §§ 4901-4918)
- Aviation Safety and Noise Abatement Act of 1979 (49 USC § 47501 et seq.)
- Airport and Airway Improvement Act of 1982 (49 USC § 47101 et seq.)
- Airport Noise and Capacity Act of 1990 (49 USC §§ 47521-47534 & §§ 106(g), 47523-47527)
- Prohibition of Operating Certain Aircraft Weighing 75,000 Pounds or Less Not Complying with Stage 3 Noise Levels [Section 506 of the FAA Modernization and Reform Act of 2012] (49 USC §§ 47534)

SOCIOEONOMICS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

Relevant federal laws, regulations, and executive orders related to Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks are described below.

- The Uniform Relocation Assistance and Real Property Acquisitions Policy Act of 1970 (42 USC § 61 et seq.), implemented by 49 CFR Part 24
- Title VI of the Civil Rights Act, as amended (42 USC §§ 2000d-2000d-7)
- EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (59 FR 7629)
- Memorandum of Understanding on Environmental Justice and EO 12898
- USDOT Order 5610.2(a), Environmental Justice in Minority and Low-Income Populations (77 FR 27534)
- CEQ Guidance: Environmental Justice: Guidance Under the NEPA
- Revised USDOT Environmental Justice Strategy (77 FR 18879)
- 28 CFR §42.401 implements Title VI of the Civil Rights Act, as amended
- EO 13045, *Protection of Children from Environmental Health and Safety Risks* (62 FR 19885).

WATER RESOURCES

The following subsections describe the water resources in and around the project area. Water resources include wetlands, floodplains, surface waters, and groundwater.

Wetlands

Relevant federal laws, regulations, and executive orders related to Wetlands include

- EO 11990, Protection of Wetlands (42 FR 26961)
- CWA (33 USC §§ 1251-1387)
- Fish and Wildlife Coordination Act (16 USC § 661-667d)
- USDOT Order 6660.1A, Preservation of the Nation's Wetlands
- State statutes protecting wetlands

33 CFR Parts 320-332 and 40 CFR Parts 230-233 implement the CWA as it pertains to wetlands. The CWA defines wetlands as "…those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands have three necessary characteristics:

- Water: presence of water at or near the ground surface for a part of the year
- Hydrophytic Plants: a preponderance of plants adapted to wet conditions
- Hydric Soils: soil developed under wet conditions

Floodplains

The relevant federal laws, regulations, and executive orders related to floodplains include:

- EO 11988, Floodplain Management (42 FR 26951)
- National Flood Insurance Act (42 USC § 4001 et seq.)
- USDOT Order 5650.2, Floodplain Management and Protection
- State and local statutes protecting floodplains
- 44 CFR Part 60 implements the National Flood Insurance Act.

Surface Waters and Groundwater

The relevant federal laws, regulations, and executive orders related to Surface Waters and Groundwater include:

- CWA (33 USC §§ 1251-1387)
- Fish and Wildlife Coordination Act (16 USC § 661-667d)
- Rivers and Harbors Act (33 USC § 401 and 403)
- Safe Drinking Water Act (42 USC §§ 300(f)-300j-26)

APPENDIX I

COMMENTS ON DRAFT EA AND RESPONSES TO COMMENTS

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G.1 INTRODUCTION

This appendix identifies the comment submission received concerning the Draft Environmental Assessment (EA) during the 30-day comment period (April 26, 2021 through May 27, 2021) and the responses to those comments.

G.2 LIST OF COMMENTERS

Table G-1 below provides an indexed list of all commenters. Each commenter was assigned a commenter number. A code was used that consists of a letter and a number to identify each commenter to facilitate the cataloging of all comments that were received. The letter identifies the type of commenter as follows:

A = Agency (Federal, State, Regional, or Local)

The number that follows the letter identifies the specific commenter. For example, the code "A-1" describes the commenter as being the first member of an agency who provided comments.

No comments were received by organizations or members of the public.

TABLE G-1
LIST OF COMMENTERS

COMMENTER NUMBER	NAME	AFFILIATION	DATE	SUBMISSION TYPE
Agency				
A-1	Nola Engelskirger	San Luis Obispo County Public Works Department	May 27, 2021	Email

Source: RS&H, 2021.

Commenter A-1

Subject: Comments on the Draft EA for the Oceano Airport
Date: 2021-05-27 21:21
From: Nola Engelskirger <nengelskirger@co.slo.ca.us>
To: "staff@sloairport.com" <staff@sloairport.com>
Cc: JR Beard <rbeard@co.slo.ca.us>, Ann Gillespie <AGillespie@co.slo.ca.us>

In response to the notice of draft environmental assessment (EA) to complete six airfield pavement and facility improvements (the Proposed Action), at the Oceano County Airport (Airport), the County of San Luis Obispo Public Works Department (Public Works) has the following comments:

COMMENT 1

* The Proposed Action will result in a permanent increase in impervious surfaces of approximately 0.75 acres and the EA states that this will not diminish the floodplain's ability to moderate floods.
However, it is anticipated that the Proposed Action will increase the volume of storm water into the Meadow Creek Lagoon, also known as the Oceano Lagoon, which does not have adequate capacity for additional storm flows during any event. Public Works is concerned that the potential impact will be increased flooding of the existing community around the Lagoon.

COMMENT 2

* The EA states that the floodplain is influenced by Arroyo Grande Creek and the Pacific Ocean, but it should include that the floodplain is also influenced by Meadow Creek.

COMMENT 3

* The EA states that "Further study in the design phase of project development will determine if improvements to the Airport drainage system would be required to reduce the potential for localized on-Airport ponding." Public Works recommends that the Airport also consider during the design phase the potential for flooding of the adjacent community due to the Proposed Action. Public Works is particularly interested in strategies for mitigating increased stormwater runoff from smaller sized storms, particularly in regard to compliance with regional flood control and post-construction stormwater requirements.

COMMENT 4

* Public Works recommends the Airport include discussion of drainage constraints and potential BMPs in the final EA. Potential BMPs should address both increased runoff volume and water quality.

Thank you for the opportunity to provide these initial comments on the Proposed Action. We look forward to working with the Airport during the design phase and during the Coastal Development Permit and CEQA processes to ensure our concerns have been addressed.

Sincerely,

[1]

Nola Engelskirger, P.E.

Capital Projects Manager

Public Works, County of San Luis Obispo
Tel: (805) 788-2100 | _An APWA Accredited Agency _ Website [1] | Twitter [2] | Map [3]

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Response to Commenter A-1

1. Section 4.13.2.2 of the EA indicates that the additional 0.75 acres of impervious surfaces resulting from the Proposed Action would have no effect on the 100-year base flood elevations.

2. Sections 3.13.2.2 and 4.13.2.2 of the EA have been revised to indicate that Meadow Creek also influences the 100-year floodplain in the Airport vicinity.

3. Section 4.13.2.2 has been revised to indicate that improvements to the Airport drainage system would include strategies for mitigating increase stormwater runoff from smaller sized storms and would be made in compliance with regional flood control and post-construction stormwater requirements.

4. Section 4.13.2.2 has been revised to indicate that best management practices could be incorporated into the final design of the Proposed Action.

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